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Force Oriented Cost Information System (FOCIS) User's Manual

James L. Wilson
Kenton G. Fasana
Charles V. Fletcher
Alexander O. Gallo
Timothy J. Graves
Kevin B. Mills
Harold W. Laughlin
David Tran
Wade P. Hinkle, Project Leader

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Force-Oriented Cost Information System (FOCIS)

User's Manual

Executive Summary

This user's manual describes the capabilities of the Force Oriented Cost Information System (FOCIS) model and how it is used in a Defense Resource Management Study (DRMS) program. The Institute for Defense Analyses (IDA) was tasked to develop analytic techniques to assist the DRMS program in formulating affordable multi-year plans for countries needing improvement in their management practices. The work resulted in the development of a computer model to help countries understand the relationships between defense forces and costs.

What is FOCIS?

FOCIS is a computer application that is used to develop, evaluate, and track multi-year defense program plans. FOCIS operates on personal computers running Microsoft XP or any currently existing later operating system (VISTA or Windows 7), as a standalone application or on an existing local area or wide area wired or wireless network.

The foundation of FOCIS is a user-entered, unit-level force structure database that can be modified to reflect alternative defense planning strategies. FOCIS provides functions to estimate the costs of the program plans. FOCIS also provides a suite of integrated analysis tools that allow users to evaluate program resources using common defense analysis models that can be constructed as combinations of missions, military functions, geographic locations, and other taxonomies deemed useful.

FOCIS gives a country's defense planners the ability to understand the total cost of alternative program plans, to determine whether they are affordable, and to understand how their resources are being used relative to national defense priorities.

How is the FOCIS Model used in Defense Resource Management?

FOCIS's primary contribution to defense management is the linkage it provides between physical resources, capabilities, and costs. The fundamental underlying concept of FOCIS is that Units are the building blocks of military capability and those Units need resources to produce these required military capabilities. By linking funding requirements to specific defense military and administrative characteristics, defense establishments can better explain their budget requests to their governments and establish a baseline for linking the use of budget funds to performance indicators. When funding can be clearly related to the resources and activities, it is easier for defense institutions to justify their requests, including increases in budgets if they are needed to fulfill accepted government defense objectives.

It is the linking of Units (including personnel, equipment, and activity) with basic cost relationships that gives FOCIS its primary power to support defense resource analysis and decisions in ways that are not available with traditional defense management systems. FOCIS

provides useful estimates of funding requirements at the individual Unit level where defense capabilities are found. By associating costs with Units, users can gain insight into how funding relates to missions and other ways of describing defense capabilities.

How the FOCIS Model is used in DRMS Studies

A modular approach for DRMS provides a four-phase, building block process to management reform. The four phases are:

1. **Assessment**: DRMS begins with a detailed assessment of the current management system, including force, resource, and budget planning activities to document how well the existing system functions and identify opportunities for improvement. *During the Assessment phase, the DRMS team will investigate whether a resource management model, such as FOCIS, could be useful in improving the efficiency of the management system.*
2. **Preparation and Skill-Building**: The next phase focuses on suggestions for improving existing systems and procedures while concurrently preparing the host country to implement new management processes and procedures. A critical part of this phase involves identifying the personnel and organizational realignment needed to implement the new processes, and assisting in development of specialized skills and information systems. *If the FOCIS model is selected for implementation for the DRMS program, the model will be installed during the Skill-Building phase. User training, data gathering, and validation of the FOCIS model will also occur during this phase.*
3. **Implementation**: The host country creates its first resource-constrained, multi-year program and budget using the new processes and procedures. The host country creates or adjusts management and implementation directives to align with necessary changes. *The FOCIS model will support the programming and budgeting process during the Implementation phase.*
4. **Sustainment**: Finally, a sustainment effort supports institutionalization of the defense reform effort, primarily from an advisory role. *FOCIS will become institutionalized as part of the new management practices.*

Other Defense Resource Management Studies (DRMS) Publications

This publication represents only a portion of the work that IDA has pursued with the DoD regarding the DRMS program. The following publications document other aspects of IDA's work in this area.

Best Practices in Defense Resource Management. IDA Document D-4137. C. Vance Gordon, Wade P. Hinkle. Alexandria, VA: Institute for Defense Analyses. January 2011.

Defense Resource Management Studies (DRMS): Introduction to Capability and Acquisition Planning Processes. IDA Document D-4021. Mark E. Tillman, Alfred H. Gollwitzer,

Gregory H. Parlier, Charles V. Fletcher, Wade P. Hinkle. Alexandria, VA: Institute for Defense Analyses. August 2010.

Institute for Defense Analyses. “IDA Reading Guide: Planning, Programming and Budgeting (PPBS), Multi-year Programming, Defense Resource Management” website. http://www.readingguide.org/.

Planning, Programming, and Budgeting System (PPBS)/Multi-Year Programming Reading Guide. IDA Document D-4057. Milton L. Tulkoff, C. Vance Gordon, Rachel D. Dubin, Wade P. Hinkle. Alexandria, VA: Institute for Defense Analyses. September 2010.

User Manual for IDA Reading Guide Website Users. IDA Document D-4426. Milton L. Tulkoff, Rachel D. Dubin, Wade P. Hinkle. Alexandria, VA: Institute for Defense Analyses. January 2012.

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Chapter 1.
Introduction to FOCIS

This chapter describes the concepts and capabilities of the Force Oriented Cost Information System (FOCIS) model and how it is used as part of the Defense Resource Management Study (DRMS) program. DRMS is a bilateral program aimed at strengthening host country defense resource management practices. The Office of the Secretary of Defense established the DRMS in 1993. Its goal is to help key American security partners increase their military capabilities through improved management of defense resources. The program has three primary objectives:

- Assist key security partners to meet security challenges through more effective and efficient resource management practices
- Strengthen and deepen the defense linkages between the United States and its partners through professional exchanges at the staff and senior levels
- Enhance transparency and accountability in partner countries through appropriate management and decision-making processes

The Institute for Defense Analyses was tasked to develop analytic techniques to assist the DRMS program in formulating affordable multi-year plans for countries needing improvement in their management practices. The work resulted in the development of a computer model to help countries understand the relationships between defense forces and costs. The Defense Resource Management Model (DRMM) was the initial computer program developed to support the DRMS program. The DRMM was used in more than 20 countries in Europe, Asia, and the Middle East. The FOCIS model replaced the DRMM in 2008 and is currently the primary analytical tool used to support the DRMS program worldwide.

How the FOCIS Model is used in DRMS Studies

A modular approach for DRMS provides a four-phase, building block process to management reform. The four phases are:

5. **Assessment**: DRMS begins with a detailed assessment of the current management system, including force, resource, and budget planning activities to document how well the existing system functions and identify opportunities for improvement. *During the Assessment phase, the DRMS team will investigate whether a resource management model, such as FOCIS, could be useful in improving the efficiency of the management system.*
6. **Preparation and Skill-Building**: The next phase focuses on suggestions for improving existing systems and procedures while concurrently preparing the host country to implement new management processes and procedures. A critical part of

this phase involves identifying the personnel and organizational realignment needed to implement the new processes, and assisting in development of specialized skills and information systems. *If the FOCIS model is selected for implementation for the DRMS program, the model will be installed during the Skill-Building phase. User training, data gathering, and validation of the FOCIS model will also occur during this phase.*

7. **Implementation**: The host country creates its first resource-constrained, multi-year program and budget using the new processes and procedures. The host country creates or adjusts management and implementation directives to align with necessary changes. *The FOCIS model will support the programming and budgeting process during the Implementation phase.*
8. **Sustainment**: Finally, a sustainment effort supports institutionalization of the defense reform effort, primarily from an advisory role. *FOCIS will become institutionalized as part of the new management practices.*

The remainder of this chapter describes basic FOCIS concepts and capabilities, and directs you to other chapters in the User's Manual where more detailed instructions can be found. FOCIS uses many unique terms to describe how it is organized and how it functions. Terms in this chapter with a FOCIS-specific meaning, or that are important to understanding FOCIS, appear in the FOCIS Glossary, Appendix I, provided with the User's Manual. Glossary terms are typically capitalized and appear with a dotted underline (e.g., Glossary Term). You may find it helpful to open the Glossary for quick reference as you read this and other parts of the User's Manual.

What Is FOCIS?

A good way to begin understanding the FOCIS model is to think about how it can be used. Knowing how FOCIS can be used will guide you as you tailor its capabilities to make them useful for your own FOCIS adaptation. FOCIS starts off as an almost blank database with tools that allow you to adapt it to your needs. What each FOCIS user group produces with FOCIS depends on how they tailor it, how they populate the data it can store, how they define the relationships between Unit Resources and Cost Data, and how they organize and view the information in the FOCIS user-designed outputs.

Each multi-year plan is called a "Position" in FOCIS.

FOCIS is a software application that provides you with tools to describe and estimate the financial requirements for multi-year plans for your defense establishment. FOCIS can model several alternative plans, which typically represent different approaches to meeting National Defense objectives with different force structures, readiness levels, or modernization projects. FOCIS can represent each alternative plan with its own independent database known as a Position or Position Database.

Each Position is an independent database that describes the current and future defense organization structure and the levels of Unit Manpower, Equipment, and War Reserve stockpiles, along with Equipment Use and Unit Activities that support their operational activities. These data are typically augmented by information on special projects (known in FOCIS as Budget Line Items) and modernization programs. FOCIS provides tools to estimate the budget requirements of each program plan by allowing you to create cost relationships linking each aspect of a plan to its funding requirements.

By linking funding requirements to specific defense military and administrative characteristics, defense institutions can better explain their budget requests to their governments and establish a baseline for linking the use of budget funds to performance indicators. When funding can be clearly related to the resources and activities, it is easier for defense institutions to justify their requests, including increases in budgets if they are needed to fulfill accepted government defense objectives.

It is the linking of Force Structure, Equipment Use, and Unit Activity, Unit by Unit, with basic cost relationships, that give FOCIS its primary power to support defense resource analysis and decisions in ways that are not available with traditional defense management systems. FOCIS provides useful estimates of funding requirements at the individual Unit level where defense capabilities are found. By associating costs with Units, users can gain insight into how funding relates to missions and other ways of describing defense capabilities.

FOCIS's primary contribution to defense management is the linkage it provides between physical resources, capabilities, and costs. The fundamental underlying concept of FOCIS is that Units are the building blocks of military capability and it is Units that require resources to produce these required military capabilities.

The next sections of this chapter describe how to open (i.e., log onto) FOCIS and how to navigate among its major functions. This introductory material is followed by descriptions of each of the four basic types of data needed to create a useful Position database. Following the descriptions of FOCIS data are descriptions of the tools that can be used to support analyses. The final sections of the chapter summarize the primary support utilities you will need to fully use FOCIS.

Getting Started

FOCIS is designed to operate with most commonly available Personal Computers (PCs) using currently available Microsoft operating systems. The hardware requirements are listed below followed by a list of software that FOCIS installs.

- Hardware
    - Operating systems supported: Microsoft Windows XP or VISTA either 32 or 64-bit versions

- Processor: Any processor that will run Windows XP or VISTA will run FOCIS. The faster the CPU, the faster FOCIS will run.
- Display: At least 1024x768 resolution required (FOCIS supports larger displays)
- Memory: The more memory the computer has, the faster FOCIS will run, but FOCIS has been successfully operated on machines with as little as 128MB of RAM (not recommended). At least 1 GB of memory is the preferred capacity with XP operating systems and at least 2 GB with VISTA systems.
- CD reader (to support installation of FOCIS)

- Software Installed by FOCIS
  - FOCIS executable and supporting dlls
  - FOCIS background software
    - Microsoft SQL Server 2005
    - Net Framework 2.1 (distribution version)
    - Infragistic Controls Suite Version 5.3 (distribution version)
    - Dynazip NX Version 5 (distribute version)
    - DevExpress Controls Suite Version 6.2 (distribution version)
    - SQL Server Management Studio (view database contents outside of FOCIS)
- Software used by FOCIS for import, export and download – Microsoft Excel
- Multiple Simultaneous User Support
  - FOCIS can be installed on a network and multiple users can simultaneously work with the same data sets. (The Administrator Tools / System Settings / Network Settings section of Chapter 8, Utilities, describes how this is done.)

Installing and Updating FOCIS

FOCIS is installed from a CD. Detailed instructions for installing FOCIS are provided in Appendix II of this User's Manual. **It is important to follow these instructions to avoid serious problems that may only be corrected by re-installing your operating system.** A copy of the most current installation instructions is also included on the Installation CD.

Updates to fix problems and add capabilities are released at least once a quarter and sometimes more frequently. A user website has been created and authorized users have been given the information needed to use that site. The most recent update is always available on the site along with the most current English version of the User's Manual in PDF format. Instructions for updating FOCIS are also found in Appendix II, Install, Update, and Uninstall FOCIS.

Logging On

When the FOCIS application starts, the logon screen (Figure 1-1) appears. FOCIS allows you to protect sensitive data by allowing access only for authorized users with a user name and password. If FOCIS has been set up to operate on a network, an option is also shown to choose which FOCIS installation (i.e., Server) to access. See the **Administrator Tools / System Settings / Network Settings** section of Chapter 8, Utilities, for a full description of setting up FOCIS to operate on a network.

After choosing a Server, enter your user name and password. If your user name and password are in a language other than English, click the

icon to select that language. If the user name and password are correct, FOCIS will open when you click **OK**.

FOCIS only allows one user at a time to log on with the same user name. When operating on a network, FOCIS compares the user name you enter during the logon process with all other users currently logged on. If someone else is already logged on with the same user name, the following message appears:

The User Name you entered is already in use. Please log in with a different name or log out on that computer.

The computer name where the User Name is now used is: <Computer Name>

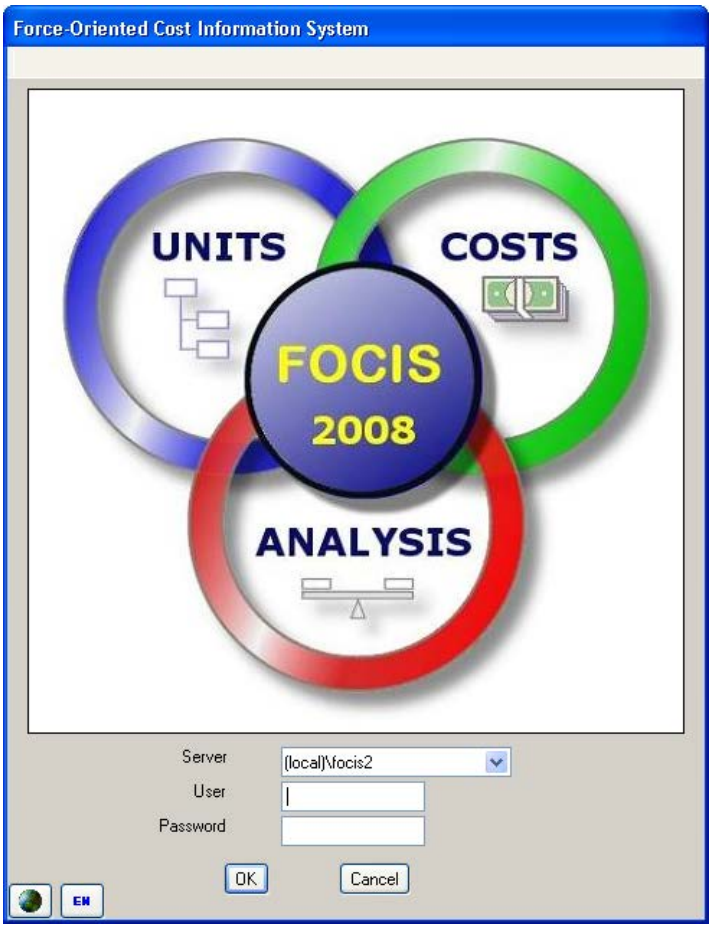


Figure 1-1. FOCIS Logon Screen

FOCIS identifies all changes in Position data by the date and time of the change and by the user that was logged on at the time of the change. As described later, every FOCIS user is given Permissions that allow them to create and modify specific types of data. To get the most value from the change data tracking and the permissions, FOCIS users should each have their own user name, password, and permissions.

All users should have a unique user name and password.

Navigating Among FOCIS Functions

Before discussing FOCIS data and the process of building and using Position databases, you should become familiar with the different ways you access the functions built into FOCIS. FOCIS functions are organized into six major functional groups known as Work Areas.

- **Unit Data** (Unit Organization Structure and Unit Resource data)
- **Cost Data** (Cost Factors, Inflation Data, and other cost information)
- **Analysis Models** (Tools to group data for analysis and presentation)

- **Setup Data** (User-created lists of defense program characteristics)
- **Reports** (Tools to produce outputs)
- **Utilities** (Tools that support FOCIS users)

Figure 1-2 shows an example of Unit Data in a typical FOCIS window.

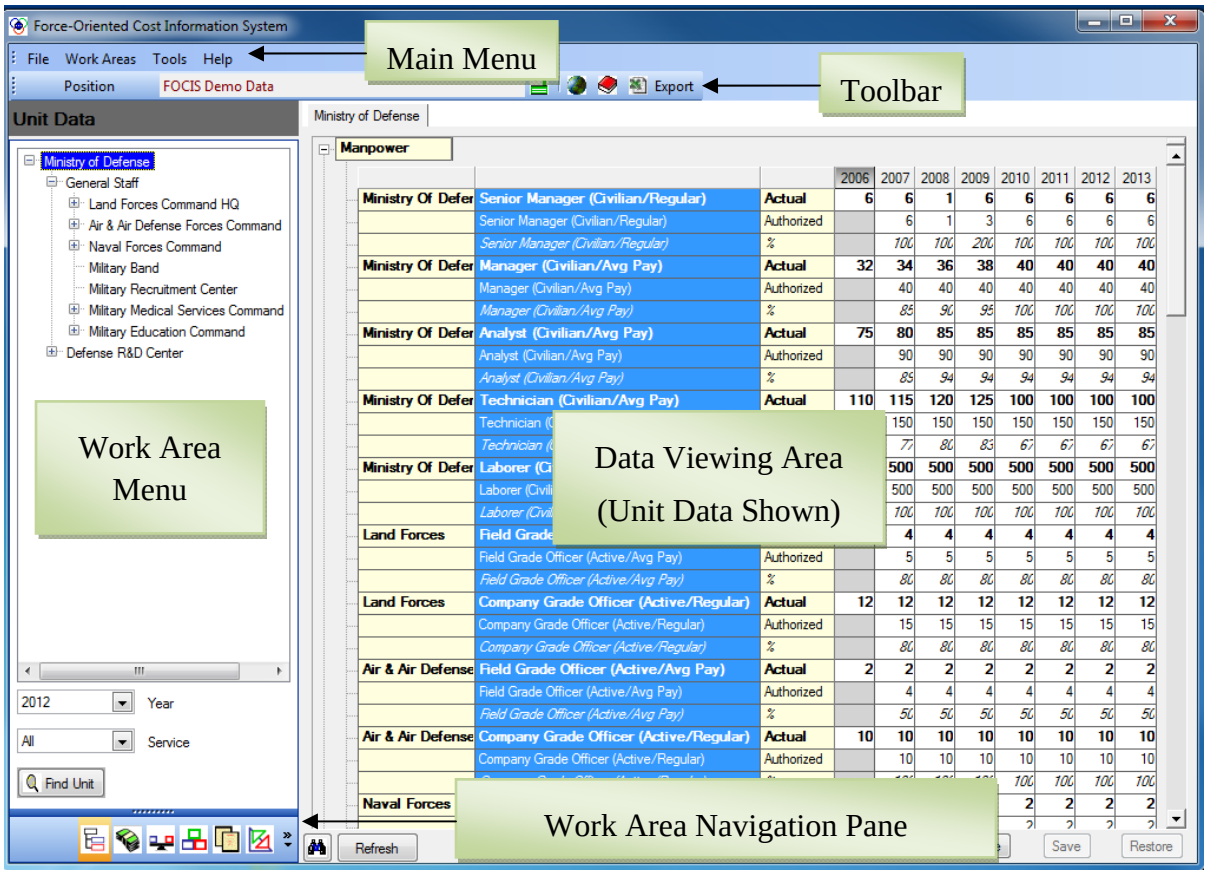
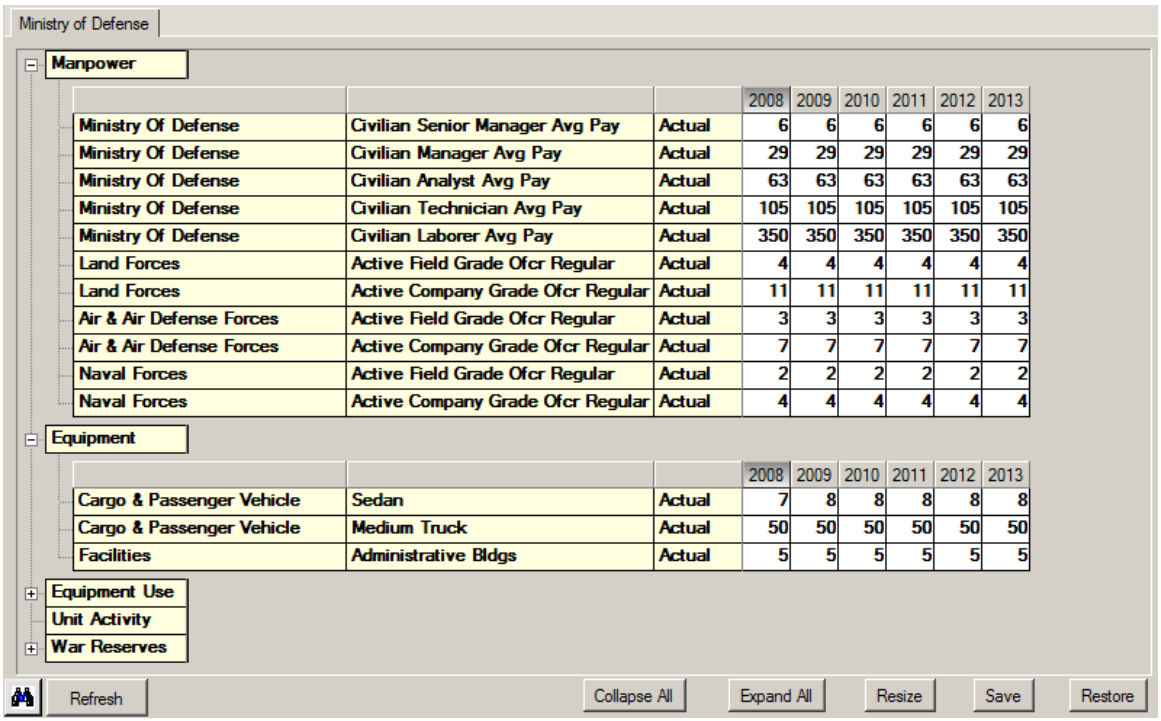


Figure 1-2. Typical FOCIS Window

When working in a FOCIS window, there will typically be several functions (e.g., Add, Delete, Copy, Fill (Right)) that are unique to working with that type of data or that function. These window-unique functions are available by right-clicking in the window and choosing the appropriate function from the shortcut menu.

Some FOCIS functions need to be available regardless of the specific window or Work Area that is being used. General purpose functions are provided through the FOCIS menu and toolbar. The sections below describe the menu, toolbar, and navigation between Work Areas. Later chapters describe the functions available in each specific Work Area.

FOCIS uses spreadsheet-like grids to display and edit data. You will find two types of grids in FOCIS, non-hierarchical and hierarchical. Hierarchical grids group data by categories, and sometimes subcategories, with details for each category shown below the category labels. An example of a two-level hierarchical grid is shown in Figure 1-3.



			2008	2009	2010	2011	2012	2013
Ministry Of Defense	Civilian Senior Manager Avg Pay	Actual	6	6	6	6	6	6
Ministry Of Defense	Civilian Manager Avg Pay	Actual	29	29	29	29	29	29
Ministry Of Defense	Civilian Analyst Avg Pay	Actual	63	63	63	63	63	63
Ministry Of Defense	Civilian Technician Avg Pay	Actual	105	105	105	105	105	105
Ministry Of Defense	Civilian Laborer Avg Pay	Actual	350	350	350	350	350	350
Land Forces	Active Field Grade Ofcr Regular	Actual	4	4	4	4	4	4
Land Forces	Active Company Grade Ofcr Regular	Actual	11	11	11	11	11	11
Air & Air Defense Forces	Active Field Grade Ofcr Regular	Actual	3	3	3	3	3	3
Air & Air Defense Forces	Active Company Grade Ofcr Regular	Actual	7	7	7	7	7	7
Naval Forces	Active Field Grade Ofcr Regular	Actual	2	2	2	2	2	2
Naval Forces	Active Company Grade Ofcr Regular	Actual	4	4	4	4	4	4

			2008	2009	2010	2011	2012	2013
Cargo & Passenger Vehicle	Sedan	Actual	7	8	8	8	8	8
Cargo & Passenger Vehicle	Medium Truck	Actual	50	50	50	50	50	50
Facilities	Administrative Bldgs	Actual	5	5	5	5	5	5

Figure 1-3. Example of a Hierarchical Grid in FOCIS

Five categories are shown in Figure 1-3: Manpower, Equipment, Equipment Use, Unit Activity, and War Reserves. Examples of the details for a category are shown for the first two categories. Use the [+] and [-] symbols to the left of the category labels to control whether the detail data within a category is displayed. When details are showing, there is a [-] to the left of the category label and you can click that symbol to collapse the details and show only the category label. When details are not shown and there is detail data available, a [+] appears to the left of the category label, and you can click that symbol to show the details for that category. When no symbol appears to the left of a category label, no detail data exist in the category at the current time.

Some hierarchical grids have control buttons at the bottom of the window that provide a quick way to expand or collapse the level of displayed detail for all categories. The **Collapse All** and **Expand All** buttons shown at the bottom of Figure 1-3 allow the user to expand or collapse all Unit Resource categories.

Some grids have more than two levels. Figure 1-4 shows the Equipment Setup window, which has three grid levels.

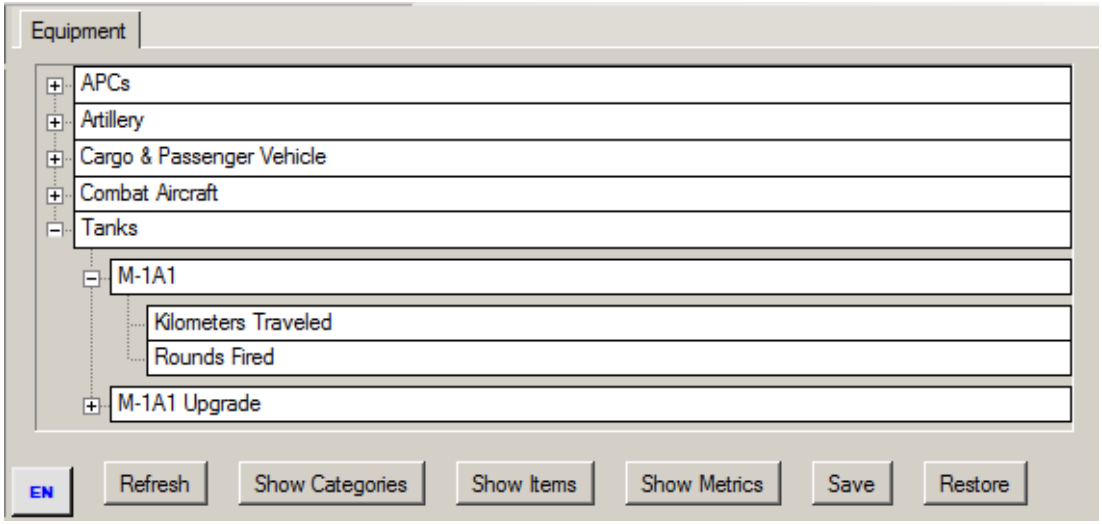


Figure 1-4. Example of Hierarchical Grid in Equipment Setup Display

Because each FOCIS grid displays a different type of data, the grid control buttons at the bottom of FOCIS windows are not all the same. Figure 1-4 shows buttons at the bottom that allow users to display different levels of equipment categories, equipment items, and equipment metrics. In this example, clicking the **Show Categories** button will change the display to show only the category labels. Additional information on what the grid control buttons do in each FOCIS window are provided in the descriptions of each window at other places in this User's Manual.

The basic features of all FOCIS grids are common to both hierarchical and non-hierarchical grids. The following features apply to all FOCIS grids.

Select an item. Click anywhere in the grid to select a data item. The background color in a selected cell changes when it is selected. The color depends on how a user has set the basic Windows color scheme. In the default version of Windows, the background in selected cells changes to blue.

Move among cells. Press the **Tab** key to move forward one cell at a time. Press the **Shift** and **Tab** keys together to move backward.

Add or edit grid data. Grids are used to display fixed FOCIS labels as well as data that users can add or edit. If the cell background color in a grid is not white, then the data in the cell have been generated by FOCIS and cannot be changed. Cells with white backgrounds can accept data or hold data that can be edited. When data are entered or edited, the text of the data becomes red and remains red until the data have been Saved or previous values have been Restored.

Select data operation. There are typically several functions that users can use with the data displayed in FOCIS grids. Some of the functions you will find are Delete, Copy, Move, Copy Right, etc. The functions that apply in each FOCIS display differ, but the ones that apply to

each window can always be seen by right-clicking in the grid. The functions shown in the shortcut menu that appears are those that can be used with the cell in which the right-click is initiated. The features of the right mouse-click functions are explained later in the User's Manual.

See more of a grid. Use the scrollbars located at the right and bottom of the grid (see Figure 1-5).

There are three ways to use the scroll bars:

1. Arrows you click to move one column or row at a time.
2. Sliders you can drag to move the display area.
3. Jump spaces you click to move a large number of columns or rows.

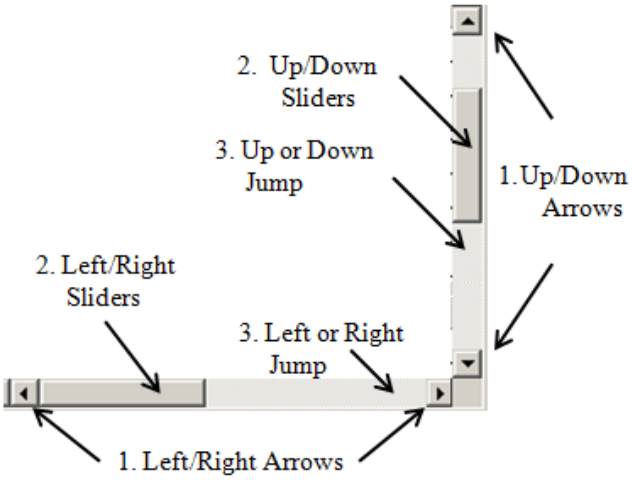


Figure 1-5. Using Scroll Bars in a Grid

Resize column widths. To change the width of a single column:

1. Position the cursor on the line to the right of a column heading so that the cursor turns into a vertical line with arrows on either side.
2. Click and hold the left mouse button down and move the mouse left to make the column narrower, right to make it wider.

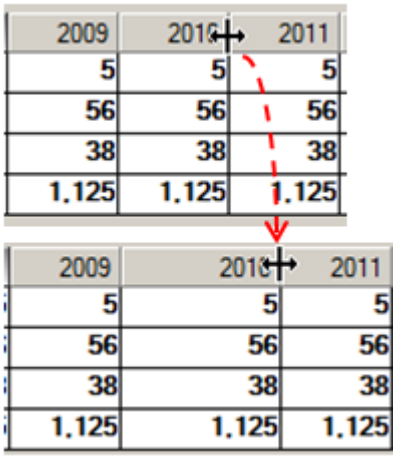


Figure 1-6. Change Column Width

Figure 1-6 shows the special cursor that appears and the result of dragging the column width to the right to make the 2010 column larger.

Copy grid data. Select the data (single cell) you want to copy, then select **Ctrl-C** to copy to your clipboard. Place the cursor in another document (e.g., Microsoft Excel) and select **Ctrl-V** to paste the data.

FOCIS Main Menu

The FOCIS main menu (Figure 1-7) is located at the top of the FOCIS window and has four major menu items: File, Work Areas, Tools, and Help. FOCIS functions are grouped under these items.

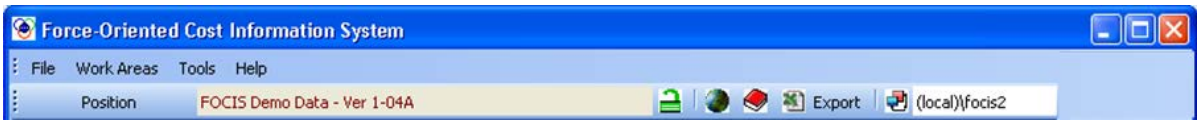


Figure 1-7. FOCIS Main Menu

File Menu Items

As displayed in Figure 1-8, the File menu contains the following items:

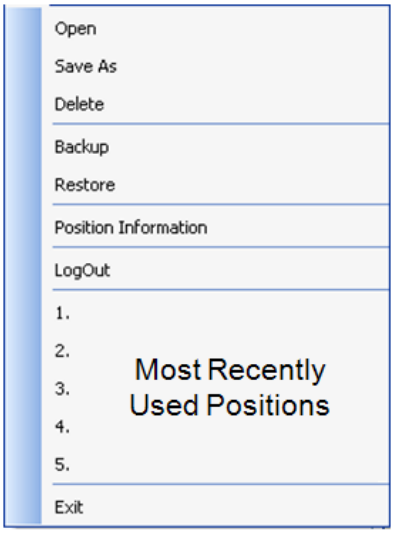


Figure 1-8. File Menu

- **Open** – This function displays a list of all Position databases other than the currently open Position and allows users to select one to open.
- **Save As** – This function makes a copy of the currently open Position and prompts the user for a new name for the Position.
- **Delete** – This function displays a list of all Position databases other than the currently open Position and allows users to select one to remove. When a Position is deleted, its data is no longer available (unless it was previously backed up).
- **Backup** – This function creates a compressed (.zip) copy of all data in the currently open Position and can later be restored as a usable Position. A Position that is backed up continues to be available for further revisions. This function and the window through which it is accessed are described in more detail in the Backup Functions section of Chapter 8, Utilities. The **Backup** function is also available in the Utilities Work Area.
- **Restore** – This function converts a Backup file created by FOCIS into a fully useable Position database. The restored database becomes the currently open Position. This function and the window through which it is accessed are described in more detail in the Restore Functions section of Chapter 8, Utilities. The **Restore** function is also available in the Utilities Work Area.
- **Position Information** – This function gives users several capabilities related to the description and access to the currently open Position. It allows users to:
  - Rename the Position
  - Add or revise a narrative description of the Position.

- Lock and Unlock a Position, if the user has FOCIS System Administrator permission. A Locked Position can be viewed and used as a basis for preparing reports but cannot be modified in any way by any user while Locked. A Locked Position appears with in the FOCIS toolbar and an Unlocked Position shows as .
- Password protect a Position. Any user can limit all access to a Position to only those who know the password.
- The Position Information function and the window through which it is accessed are described in more detail in the Position Information section of Chapter 8, Utilities. The Position Information function is also available in the Utilities Work Area.

- **LogOut** – This function cancels the current user's FOCIS session and displays the Logon screen, which requires that a valid user name and password be entered before FOCIS will re-start.
- **Recently Used List** – FOCIS shows the last several Positions you have used. Clicking on any Position name in this list opens that Position.
- **Exit** – This function closes FOCIS. If any data has changed but has not been saved, users are prompted to save or ignore the changes.

Work Areas Menu Items

Users can change from one Work Area to another using the Work Areas menu shown in Figure 1-9.

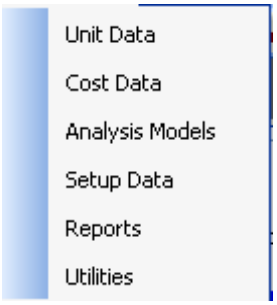


Figure 1-9. Work Areas Menu

Tools Menu Items

The Units by Year function in the Tools menu (Figure 1-10) allows you to generate a view that shows all or part of the Unit Organization Structure over all or some years. This window can also be opened from the Reports Work Area and is described in detail in Chapter 7, Reports.

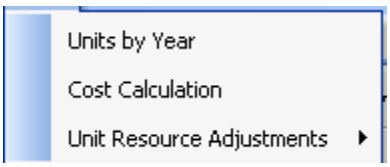


Figure 1-10. Tools Menu

FOCIS calculates budget requirements based on the Unit Structure, Unit Resources, and Cost Data entered. When either the Unit Structure, Unit Resources, or Cost Data change, the cost calculation needs to be performed again. The Cost Calculation option in the Tools menu

opens the window where the cost calculation is performed. This function is also available in the Utilities Work Area and the use of the Cost Calculation window is described in detail in Chapter 8, Utilities. The details of how the cost calculations are made are in Chapter 5, Cost Data.

FOCIS provides a set of very powerful tools to adjust the values of Unit Resource data based on a logic chosen by the user. For example, using the Unit Resource adjustment for Manpower, users can revise the Actual quantities to be equal to some user-entered percentage of the Authorized quantities. Users select the Units, the Personnel Types, and the Years to which the logic is applied. Unit Resource adjustments are available for each Unit Resource. This function is also available in the Utilities and Unit Data Work Areas. A detailed description of how to use these functions is in the "Unit Resource Adjustments" section of Chapter 4, Unit Resource Data.

Help Menu Items

As displayed in Figure 1-11, the Help menu contains the following functions:

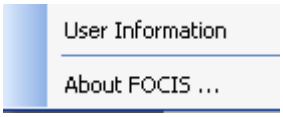


Figure 1-11. Help Menu

- **User Information** – this function's window identifies the current user and the current user's Permissions.
- **About FOCIS** – this function provides information on the current version of FOCIS being used, the SQL identification of the currently open Position, and the version of the FOCIS System Databases that are being used.

FOCIS Toolbar

Immediately below the FOCIS menu bar is the FOCIS toolbar (Figure 1-12).

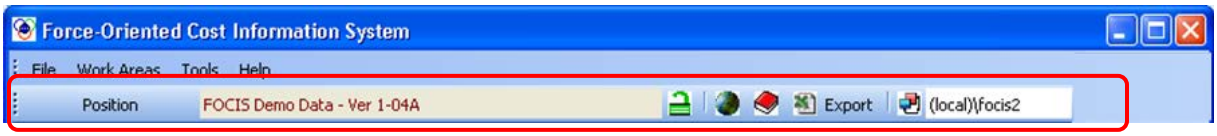


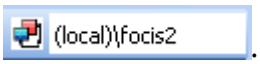
Figure 1-12. FOCIS Toolbar

The toolbar shows the name of the currently open Position followed by an icon that shows whether the Position is Locked or Unlocked.

The next icon (either or) is used to toggle the FOCIS labels between the Primary and Alternate set of labels, which users can translate to their own language. When the icon shows as , the Primary (English) labels are being displayed, but clicking the icon changes it to and displays the Alternate labels. Clicking this again will return to displaying the Primary labels. Alternate labels translations are entered using the Dictionary tab on the Translation window, which is opened by clicking the icon on the toolbar. The Translation function is also available in the Utilities Work Area and is described in detail in the "Translations / Dictionary" section of Chapter 8, Utilities.

Many FOCIS windows support an "Export to Excel" function. Clicking the

button on the toolbar starts the Export function. The details of how to use this function are contained throughout many chapters of the User's Manual along with the types of data exports it supports.

When FOCIS is enabled to operate on a network, you can choose the source of the Position data that will be used. This choice is made when logging in and is displayed on the FOCIS toolbar, 

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FOCIS Work Areas

FOCIS functions are organized into six Work Areas. You select a new Work Area by clicking on one of the icons at the bottom of the window or by choosing one of the Work Area menu entries.

Table 1-1. FOCIS Work Areas

Explorer Bar Navigation	Work Area Description
	The **Units** Work Area provides tools to create and modify the Unit Organization Structure and to add Unit Manpower, Equipment, Equipment Use, and War Reserves to each Unit, year by year.
	The **Cost Data** Work Area provides tools to create and modify relationships between Unit Resource data and their costs. Inflation effects are also recorded in this Work Area.
	The **Analysis Models** Work Area provides tools to create hierarchical sets of categories that can be used to group data into useful divisions for analysis of how Resources and Costs are used. One example of an Analysis Model would be a set of categories that list missions and sub-missions with the Units that support them.
	The **Setup Data** Work Area provides tools to create lists of characteristics that are unique to each country's defense administrative practices. Setup Data includes (but is not limited to) such things as the list of Services and Agencies, Personnel Types, and Cost Accounts that represent the key elements in the country's budget structure.
	The **Reports** Work Area provides tools to create reports containing almost any subset of Unit and Cost data in user-designed layouts that can be saved to build a portfolio tailored to the evolving needs of each country. Models created in the **Analysis Models** Work Area are used to group and summarize data to support management reporting and analysis.

Explorer Bar Navigation	Work Area Description
	The **Utilities** Work Area provides tools to back up and restore data, to export and import data, and enter translations of FOCIS English terms so all windows can be shown in either English or the host country language. Other tools in this Work Area provide the means to create accounts for new users and control the types of data they can modify.

Creating a FOCIS Position

FOCIS is installed with a nearly empty Position database named "FOCIS Startup Position." To start building your own first FOCIS Position, open the Startup Position (use the **File > Open** menu function) and save it with a new Position name (use the **File > Save As** function). It is a good idea to make a backup (use the **File > Backup** function) of this Position now and from time to time as data are entered. You are now ready to start work on your own Position.

A good place to start to understand how to build your first Position is to understand the types of data you will need and the sequence in which each type of data is typically developed and entered.

FOCIS uses four types of data in every Position database (Figure 1-13).

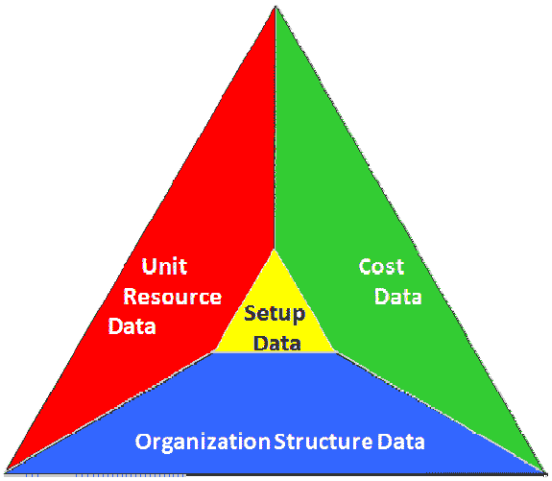


Figure 1-13. Four Types of Data in a Position Database

- Setup Data provide lists of country-specific defense characteristics that are used to create Unit and Cost data that use the terminology and practices of that country.
- Unit Organization Structure is a representation of all organizations in the defense establishment with each Unit shown in a Unit tree as a subordinate of a Parent Unit.
- Unit Resources data show both Desired and Actual quantities of Manpower, Equipment, and War Reserves along with Equipment Use and Unit Activities for any Units in the Unit Organization Structure.
- Cost Data consist of Cost Factors and other information that identifies budget requirements associated with Unit Resources.

The process of developing a full FOCIS Position usually starts by choosing and entering needed Setup Data and then collecting data on the Unit Organization Structure and entering it

for a single year, which is often called the Base Year (the foundation upon which the full multi-year initial Position will be based). The data for the Base Year is almost always the last full complete year and the organization structure will be the one that existed at the start of that year. When the Unit structure is entered, additional Setup Data are chosen and entered so that Unit Resources can be entered for all Units and validated. At the same time that the Unit Resource data are being collected and entered, others decide on and enter Cost data. The exact sequence of choosing Setup Data, collecting Unit and Cost data, and entering these can vary somewhat. Figure 1-14 shows each type of Setup, Unit, and Cost data in a FOCIS Position and which types are needed before others can be collected and entered.

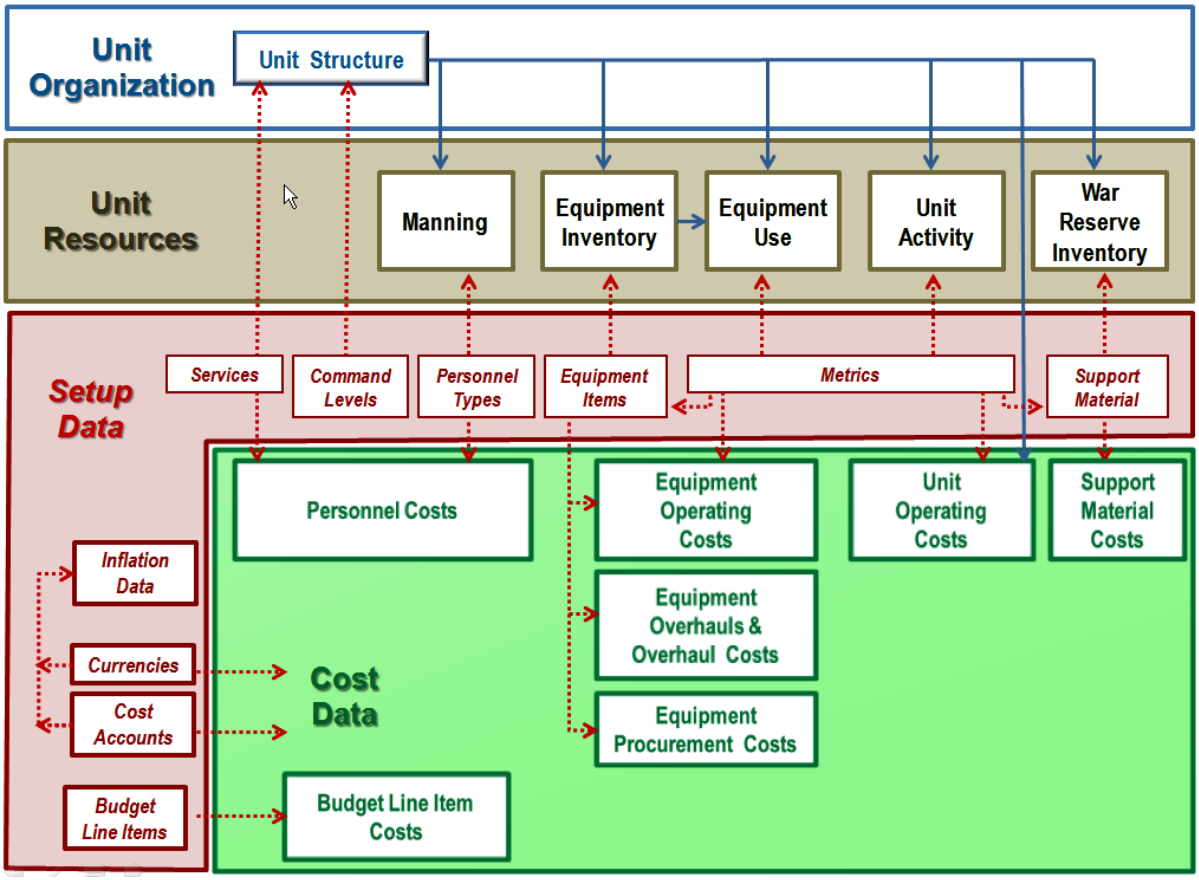


Figure 1-14. Types of Setup, Unit, and Cost Data in a FOCIS Position

Later sections in the chapter describe each type of data shown above.

FOCIS Setup Data

FOCIS is initially installed as a general purpose force and cost model that must be tailored to each country's own administrative terminology and practices. FOCIS is tailored by creating lists of various categories of defense program characteristics in the FOCIS Setup Work Area, using the items in the Setup Data menu (Figure 1-15). Chapter 2 of this Manual describes each of these Setup characteristics and provides extensive recommendations on how the lists can be constructed and what they should contain. Chapter 2 also gives detailed instructions on how to use each of the Setup Data windows.

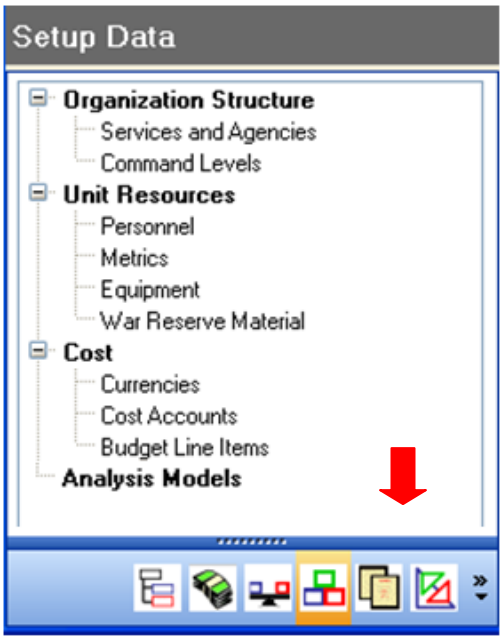


Figure 1-15. Setup Data Menu

FOCIS Setup lists must be populated before Unit Organization, Unit Resources, and Cost Data can be entered, because these lists establish the way the data are described, collected, and entered into FOCIS.

For example, until a list of Personnel Types is created, it is not possible to enter Unit Manpower data or Personnel costs because both of these types of data are recorded in terms of the Personnel Types that the user decides are appropriate for the way FOCIS will be used in their country.

Setup Data must be selected and entered before any Unit or Cost data can be collected or entered in FOCIS.

FOCIS position characteristics are described in terms of the following categories of Setup Data:

Services and Agencies

This Setup list contains the terms that describe the major defense organizations. Each Service or Agency included in the list typically has its own budget or needs to be able to be summarized separately in reports and analyses.

Command Levels

This Setup list contains the terms that describe common types of organization levels such as Ministry, Service, Division, or Brigade. Every Unit has a Command Level, and these levels allow FOCIS to summarize data in reports based on them. For example, if one Command Level used is Division, reports can be created that summarize Manpower and Equipment at the Division level.

Personnel

This Setup list contains the terms that identify the types of Personnel that FOCIS can use to enter Unit Manpower and Personnel costs. Typically, Personnel Types are not created for every officer and enlisted grade and often represent groups of Personnel with similar responsibilities and costs. Some typical Personnel Types found in FOCIS implementations include Active Senior Officer – Average Pay, Active NCO – Commando Pay, and Civilian Manager – Average Pay.

Metrics

This Setup list contains the terms that give full meaning to the quantities entered to describe Equipment Use (e.g., kilometers, flying hours, days at sea); Equipment Operating Costs, (e.g. fuel per kilometer); Unit Activities (e.g., training exercises, firing exercises); War Reserve Materials inventories (e.g., gallons, tons, 1000s); and War Reserve Material Procurement Costs (e.g., Bunker Fuel per ton, 7.62 Ammo per 1000).

Equipment

This Setup list contains the names of Equipment that will appear in a Position database. Equipment is organized in user-created Equipment Categories (e.g., Armored Vehicles, Aircraft, Ships) and each Equipment Item may have one or more Metrics associated with it for the purposes of describing Equipment Use and Equipment Operating Costs.

Support Material

This Setup list contains the names of Support Material that will appear in a Position database. Support Material is organized in user-created Categories (e.g., Ammunition, Petroleum, Oil & Lubricants) and each Support Material Item may have one or more Metrics associated with it for the purposes of describing the Use and Operating Costs.

Currencies

This Setup list contains the names of the major sources of funding used to pay to for defense activities under the control of the Ministry of Defense or equivalent organization. If all funds for defense come from only one budget, a single Currency is created. This Currency might be defined with a scaling factor such as US Dollars (000s) which would indicate that all Cost data is actually in thousands of US dollars. Sometimes countries have separate funding sources for defense, such as a separate Modernization Fund. In these cases, a second Currency may be added to the list, allowing Cost Data to be entered using either Currency, thereby enabling reports to separately report money used from both Currencies. Any number of Currencies can be created and used to identify different sources of funding for any Cost entry.

Cost Accounts

This Setup list contains the names of the types of expense that can be represented in a FOCIS Cost calculation. For example, Cost Accounts typically exist for such expense categories as salaries, uniforms, fuel, spare parts, ammunition, water, electricity, and building construction. Cost Accounts are typically directly associated with budget accounts but not necessarily all at the same budget level. Each Cost Account will have an account number that usually directly corresponds to a budget account number. Cost Accounts are created in the Setup Work Area.

Budget Line Items

One of the primary functions of FOCIS is to budget requirements to specific program characteristics such as Units and Unit Resources using Cost Factors. But there are budget requirements that are only able to be represented as specific amounts per year. Some of these are administrative costs such as Foreign Travel or Representation Funds, and others are for specific projects such as building new facilities. FOCIS allows you to create any number of Budget Line Items to represent these costs. You can also create Budget Line Item categories to group the information.

Analysis Models

FOCIS provides tools that allow you to organize FOCIS data into meaningful groups through its Analysis Models function. Analysis Models consist of a Model Structure made up of categories. Data items assigned to each category are called the Model Content. Analysis Models are applied by using them in reports in the Reports Work Area. Directions for creating Analysis Models, Model Structures, and adding Model Content are in Chapter 6, Analysis Models.

Unit Organization Data

Units are where Resources are put to use to produce a capability and are the central element of a FOCIS Position. FOCIS provides tools to construct a representation of the Organization Structure that shows each subordinate Unit in relationship to its Parent Unit year by year (Figure 1-16). Each Unit created in FOCIS has the following characteristics that change year by year if appropriate:

- Name
- Service
- Code
- Command Level

Unit Code is an optional characteristic that can be used when a country has a systematic numbering technique for identifying Units.

Figure 1-16. Typical Unit Organization Structure

When creating the Unit Organization Structure, the level of organization included can vary for each part of the organization based on what will be most useful. Some portions of the organization structure can be represented at the Battalion level, while others may be represented at a higher or lower level. The choice of the appropriate level depends on the types of decisions and analyses that the users want to make with the help of FOCIS data. For example, if Unit Manning, Training, or Force Structure decisions in the Land Forces are made at the Battalion level of organization, then this is the correct level to include in the Land Forces organization. Other types of Units may be appropriately represented at higher or lower levels.

When a new Position is first being created, it is normal to create the Unit Organization Structure for a single year. FOCIS tools allow this single year structure to be extended to include as many years as desired by adding years. New Units can be added in any year range and Units can be removed from the structure. When the structure covers multiple years, the Parent and Subordinate relationships can be revised in any year, when the program plan includes reorganization (this is known as Resubordination in FOCIS).

Complete instructions for creating and modifying FOCIS Unit Organization Structures are in Chapter 3, Unit Organization Structure Data.

Unit Resource Data

Unit Resources include Manpower, Equipment, Equipment Use, Unit Activity, and War Reserves (Figure 1-17). After a Unit has been added to the Unit Organization Structure, Unit Resources can be added that describe two important measures of Resource use for that Unit on an annual basis: Authorized and Actual. (Note: For some Unit Resources, Desired is used instead of Authorized). Based on these entries, FOCIS displays a "%" value that is calculated as Actual divided by Authorized (Figure 1-18).

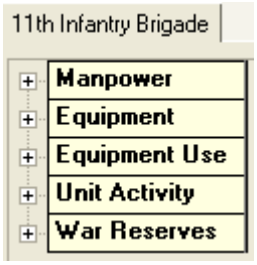


Figure 1-17. Unit Resource Data Categories

Land Forces	Enlisted (Active/Regular)	Actual	14	14	14	16	16	16	16	17	17
		Authorized		20	20	20	20	20	20	20	20
		%		70	70	80	80	80	80	85	85

Figure 1-18. Typical Quantity Measures for Unit Resource Data

If there is a change in the Actual or Authorized amount, FOCIS recalculates the "%" value. You can also change the "%" value; if you do, FOCIS will recalculate the Actual value to an integer value based on the new percentage times the Authorized quantity in that year.

Unit Manpower Data

Unit Manning is entered for each Unit by year. Each entry is identified by a Personnel Type and a Budgeting Service. The Budgeting Service used identifies the Service whose budget will pay for the individual's costs. This is done so that if Personnel from one Service (e.g., the Army) are stationed in a unit of a different Service (e.g., General Staff or Ministry) FOCIS can include the expense of those Personnel as an Army expense and not an expense of the General Staff or Ministry.

Because Unit Manpower is entered in FOCIS by Unit, Personnel Type, and Budgeting Service, the work of gathering and entering Unit Manpower data can begin after the Unit Organization Structure and the Setup lists of Personnel Types and Services are complete.

When Unit Manpower data are entered, annual quantities are entered for both Authorized and Actual quantities. Authorized Manpower amounts are the number of Personnel that the Unit should have in order to be considered fully capable and ready. Typically, these quantities are established in an official document that may be called a "Table of Organization and Equipment." The quantity shown as the Actual amount should reflect the number that will be assigned—typically the number present for duty or the number planned to be present in that Unit in a future year.

For Personnel Types that represent the FOCIS Personnel Class of Reserve Personnel, the number of Training Days per year per soldier is entered, and the costs calculated for Reserve Personnel are based on the Actual quantity and the number of training days.

A sample of the Unit Manpower display is shown in Figure 1-19. A more complete description of Unit Manpower and how it is entered in FOCIS is found in Chapter 4, Unit Resource Data.

Manpower

			2006	2007	2008	2009	2010	2011	2012	2013	2014
Land Forces	**Field Grade Officer (Active/Avg Pay)**	**Actual**	**5**	**5**	**5**	**6**	**6**	**6**	**6**	**6**	**6**
		Authorized		7	7	7	7	7	7	7	7
		%		71	71	86	86	86	86	86	86
Land Forces	**Company Grade Officer (Active/Regula**	**Actual**	**53**	**53**	**53**	**60**	**60**	**60**	**60**	**64**	**64**
		Authorized		75	75	75	75	75	75	75	75
		%		71	71	80	80	80	80	85	85
Land Forces	**Enlisted (Active/Regular)**	**Actual**	**35**	**35**	**35**	**40**	**40**	**40**	**40**	**43**	**43**
		Authorized		50	50	50	50	50	50	50	50
		%		70	70	80	80	80	80	86	86
Land Forces	**Conscript (Active/Regular)**	**Actual**	**1,050**	**1,050**	**1,050**	**1,200**	**1,200**	**1,200**	**1,200**	**1,275**	**1,275**
		Authorized		1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
		%		70	70	80	80	80	80	85	85
Land Forces	**Field Grade Officer (Reserve/Regular)**	**Actual**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
		Authorized		3	3	3	3	3	3	3	3
		Training Days		5	8	10	10	10	10	10	10
		%		67	67	67	67	67	67	67	67

Figure 1-19. Typical Unit Manpower Data by Personnel Type

Unit Equipment

Unit Equipment is added as a Unit Resource using any of the Equipment Items previously entered in the Equipment Setup window. When Unit Equipment data are entered, annual quantities are entered for Authorized, Actual, and Stored Equipment quantities. Using the Authorized and Actual entries, FOCIS displays a "%" value that is calculated as Actual divided by Authorized. Any change in Actual or Authorized will cause the "%" value to change. Changing the "%" value will cause the Actual value to be recalculated to an integer value based on the new percentage times the Authorized quantity in that year.

Authorized Equipment amounts are the number of Equipment Items that the Unit should have in its possession in peacetime to be considered fully capable and ready. Typically, these quantities are established in an official document that is sometimes called the "Table of Organization and Equipment." The quantity shown as the Actual amount should reflect the number of Equipment Items that are assigned to the Unit. In some countries, some of the Actual Equipment in a Unit is placed in local Storage and maintained to be ready with very little preparation to be used in emergency situations. The number of Equipment Items in Storage can be recorded, and separate operating costs can be entered for these items that may be different from the Items that are not in Storage. The convention in FOCIS is to record the Authorized and Actual quantities as those that exist on the first or last day of the year.

Sample Unit Resource Data is shown in Figure 1-20. A more complete description of Unit Equipment and how it is entered in FOCIS is found in Chapter 4, Unit Resource Data.

11th Infantry Brigade

Manpower

			2006	2007	2008	2009	2010	2011	2012	2013
Land Forces	Field Grade Officer (Active/Avg Pay)	Actual	5	5	5	6	6	6	6	6
		Authorized		7	7	7	7	7	7	7
Land Forces	Company Grade Officer (Active/Regular)	Actual	53	53	53	60	60	60	60	64
		Authorized		75	75	75	75	75	75	75
Land Forces	Enlisted (Active/Regular)	Actual	35	35	35	40	40	40	40	43
		Authorized		50	50	50	50	50	50	50
Land Forces	Conscript (Active/Regular)	Actual	1,050	1,050	1,050	1,200	1,200	1,200	1,200	1,275
		Authorized		1,500	1,500	1,500	1,500	1,500	1,500	1,500

Equipment

			2006	2007	2008	2009	2010	2011	2012	2013
APCs/AIFVs	M-113A1	Actual	8	8	8	8	8	8	8	8
		Authorized		10	10	10	10	10	10	10
Cargo & Passeng	Sedan	Actual	6	6	6	6	6	6	6	6
		Authorized		8	8	8	8	8	8	8
Cargo & Passeng	Light Truck	Actual	15	15	15	15	15	15	15	15
		Authorized		20	20	20	20	20	20	20
Cargo & Passeng	Medium Truck	Actual	12	12	12	12	12	12	12	12
		Authorized		15	15	15	15	15	15	15

Equipment Use

			2006	2007	2008	2009	2010	2011	2012	2013
M-113A1	Kilometers Traveled	Actual	0	3,600	3,600	3,600	3,600	3,600	3,600	3,600
		Desired		5,500	5,500	5,500	5,500	5,500	5,500	5,500
Sedan	Kilometers Traveled	Actual	0	10,000	10,000	10,000	10,000	10,000	10,000	10,000
		Desired		20,000	20,000	20,000	20,000	20,000	20,000	20,000
Light Truck	Kilometers Traveled	Actual	0	2,500	2,500	2,500	2,500	2,500	2,500	2,500
		Desired		7,000	7,000	7,000	7,000	7,000	7,000	7,000
Medium Truck	Kilometers Traveled	Actual	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000
		Desired		20,000	20,000	20,000	20,000	20,000	20,000	20,000

Unit Activity

			2006	2007	2008	2009	2010	2011	2012	2013
Training Exercis		Actual	1	0	0	0	0	0	0	0
		Desired		0	0	0	0	0	0	0

War Reserves

			2006	2007	2008	2009	2010	2011	2012	2013
Ammunition	12.7 mm (Rounds (000s))	Actual	200	200	200	200	200	200	200	200
		Desired		300	300	300	300	300	300	300
Petroleum, Oil &	Diesel Fuel (Gallons)	Actual	92,400	92,400	92,400	92,400	92,400	92,400	92,400	92,400
		Desired		140,000	140,000	140,000	140,000	140,000	140,000	140,000

Figure 1-20. Sample Unit Resource Data

Cost Data

One of the primary uses of FOCIS is estimating the budget requirements associated with a program plan in a Position database. FOCIS estimates costs in several ways, depending on how you choose to represent them. One way to think about costs is to divide them between Operating and Support costs and Investment Costs.

Operating and Support Costs

Operating and Support costs are those expenses associated with paying personnel, providing supplies, training, repairing equipment, and keeping facilities operational.

Most Operating and Support costs are estimated by using the annual quantities of Unit Resources with cost factors to calculate cost. For example, if the amount in the budget for

salaries depends on the number of Personnel being paid and the cost per person, Personnel cost factors would be created for each Personnel Type using the “Salaries” Cost Account. Annual Unit Manpower Actual quantities would be used as the cost drivers with the salary cost factors by Personnel Type to calculate the salary requirements, Unit by Unit and year by year. If uniform costs were also considered to be based on Unit Manning, other cost factors would be created using the “Uniforms” Cost Account.

Users create cost factors based on Unit Manning, Unit Equipment and Equipment Use, Unit Activities, and War Reserves. Choosing how to represent budget costs based on the amount of resources being used, or planned to be used, in a future year is one of the major challenges in making FOCIS a useful tool for program planning. Where the values for these cost factors can be taken from authoritative sources, such as authorized salaries or uniform allowances, the official values are used. There are other costs that require the estimation of cost factors using the cost data that are available.

FOCIS offers four categories (Personnel, Equipment Operating Costs, Equipment Overhaul Costs, and Unit Operating Costs) and several Cost Factor Types that can be used to represent operating and support costs (Table 1-2).

Table 1-2. Cost Factor Types and Cost Drivers

Cost Factor Type	Cost Factor Metric	Cost Driver		Used With
		Source	Data Type	
Personnel				
Per Person	Per Year Per Month Per Day	Unit Manpower	Actual Amount	Active, Civilian, and Other Personnel
			Actual Amount and Training Days	Reserve Personnel
Equipment Operating Costs				
Per Item (In Use)	Per Year	Unit Equipment	Actual Quantity minus Storage Quantity	Equipment Items
Per Item (In Storage)	Per Year	Unit Equipment	Storage Quantity	
Equipment Use	User-selected Metric	Unit Equipment Use	Actual Quantity	
Equipment Overhaul Costs				
Major Overhauls	Per Major Overhaul	Equipment Overhaul Quantities	Major Overhauls	Equipment Items
Minor Overhauls	Per Minor Overhaul		Minor Overhauls	
Component Overhauls	Per Component Overhaul		Component Overhauls	
Unit Operating Costs				
Per Unit	Per Year	Unit Organization	Unit Exists in Year	Units
Unit Activity	User-selected Metric	Unit Activity	Actual Quantity	
Per Person	Unit Manning	Unit Manpower	Various personnel categories	

Notes:

- Equipment Procurement costs can be based either on increases in Equipment inventories or as specific Equipment Procurement Projects with their own year-by-year cost profiles.
- Annual amounts for specific activities can be added where each activity is treated as a Budget Line Item.
- Costs that are best represented as a percentage of another calculated cost can be represented as Proportional Costs. For example, National Insurance expenses for all Personnel can be represented as costs that are a percentage of pay, avoiding the need to create separate factors for all Personnel Types.
- Inflation data are also entered as part of the Cost data to allow costs from multiple years to be used.

Every cost in FOCIS is entered with a specific reference to a Currency and a Cost Account. Cost data and their windows are described in Chapter 5, Cost Data.

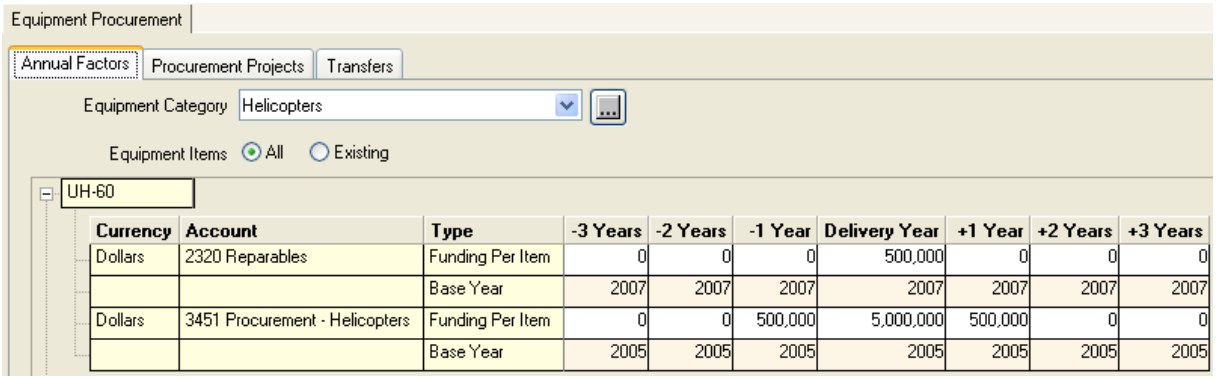
Investment Costs

Some defense spending goes toward programs whose utility recurs over many years. Equipment procurement and facility construction are two types of programs that can be

thought of as Investments in both immediate and future defense capabilities. Money spent on buying War Reserves is also a form of an Investment since the benefits of the spending do not all occur immediately.

You can create Equipment Procurement costs in two ways in FOCIS. You can create an Equipment Procurement cost factor for an item of Equipment in a way that tells FOCIS to apply that value to all increases in actual Equipment quantities throughout a Service or Agency. This method is very useful in planning future buys of new hardware when the timing of the procurement and total quantity will be changed as the program plan is developed. A change in when the items are added to the inventory or how many are added automatically adds the approximate level of funding that will be required in future budget estimates.

Figure 1-21 shows an example of an Equipment Procurement cost factor for UH-60 helicopters. You can see that it is possible to create factors that add costs in the budget years ahead of or years after actual delivery (the year that the inventory increase is seen). This optional feature gives you additional flexibility when needed.

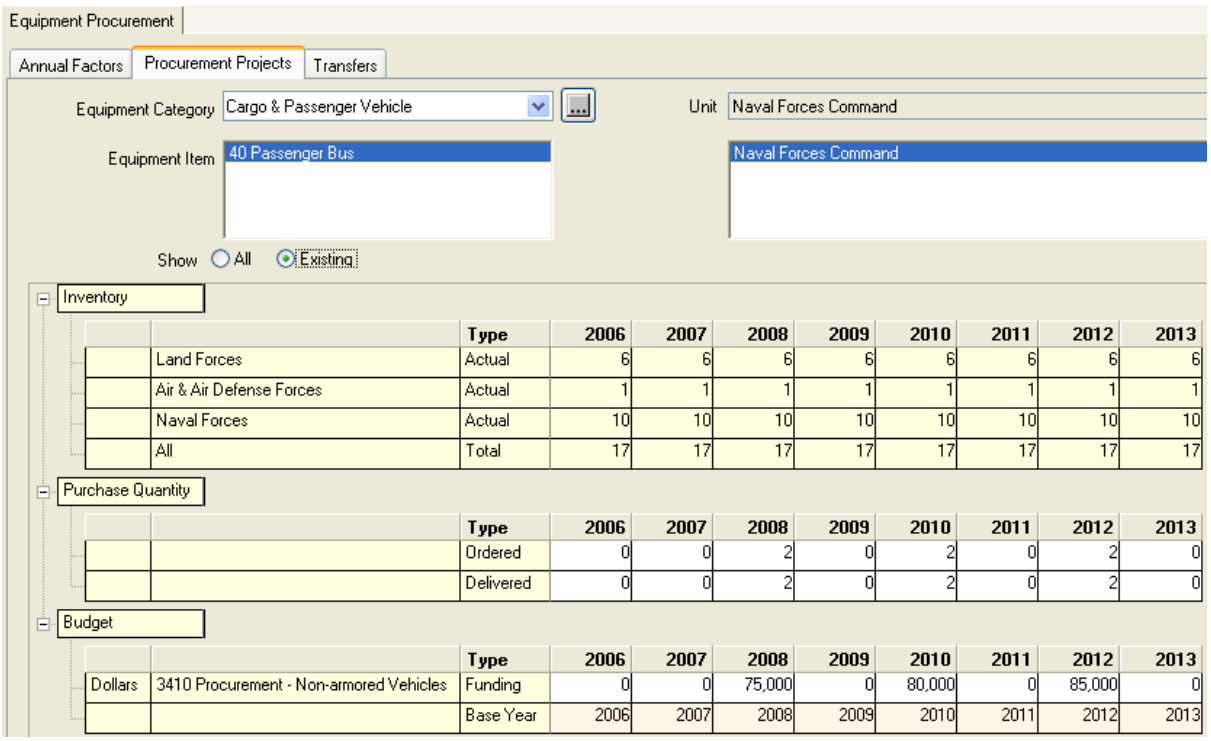


Currency	Account	Type	-3 Years	-2 Years	-1 Year	Delivery Year	+1 Year	+2 Years	+3 Years
Dollars	2320 Reparables	Funding Per Item	0	0	0	500,000	0	0	0
		Base Year	2007	2007	2007	2007	2007	2007	2007
Dollars	3451 Procurement - Helicopters	Funding Per Item	0	0	500,000	5,000,000	500,000	0	0
		Base Year	2005	2005	2005	2005	2005	2005	2005

Figure 1-21. Example of Equipment Procurement Cost Factors for UH-60 Helicopters

FOCIS also allows you to add Equipment Procurement Projects where the annual quantities and the budget costs do not need to be directly linked and where it is not necessary to include an increase in the Unit Equipment inventories. This feature, called the Equipment Procurement Project method, is most useful in two general situations. When existing Equipment inventories need to be replaced (e.g., trucks, radios) with nearly identical Equipment, an Equipment Procurement Project can be created to include the funds needed to buy them. Also, if a procurement contract has been negotiated and signed, it is often the case that the annual payments will not be directly tied to the annual deliveries. This is another situation where creating an Equipment Procurement Project is useful.

Figure 1-22 shows an example of an Equipment Procurement Project paid for by the Naval Forces Command to buy replacement 40-passenger buses. Two buses are purchased in each of 2008, 2010, and 2012. Throughout this time frame, the Navy has 10 buses in every year so the procurements are simply replacing those that have reached the end of their useful lives.



		Type	2006	2007	2008	2009	2010	2011	2012	2013
	Land Forces	Actual	6	6	6	6	6	6	6	6
	Air & Air Defense Forces	Actual	1	1	1	1	1	1	1	1
	Naval Forces	Actual	10	10	10	10	10	10	10	10
	All	Total	17	17	17	17	17	17	17	17

		Type	2006	2007	2008	2009	2010	2011	2012	2013
		Ordered	0	0	2	0	2	0	2	0
		Delivered	0	0	2	0	2	0	2	0

		Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	3410 Procurement - Non-armored Vehicles	Funding	0	0	75,000	0	80,000	0	85,000	0
		Base Year	2006	2007	2008	2009	2010	2011	2012	2013

Figure 1-22. Example of an Equipment Procurement Project for Passenger Buses

War Reserve stockpiles are built by purchasing commodities such as fuel, ammunition, spare parts, and other support materials. Users first create a list of Support Material items that make up War Reserve inventories in the Support Material Setup interface. Next they provide Support Material cost factors in the Support Material Cost interface. Users enter War Reserve Inventories by unit and year in the Unit Data Work Area. Each War Reserve inventory item is selected from the list of Support Materials. When a cost calculation for War Reserves is done, FOCIS adds all the War Reserve inventory (Actual) quantities year-by-year for each Service. FOCIS then uses the Support Material cost factors and the calculated year-by-year increases in War Reserve inventories to estimate the cost of buying additional War Reserve stockpiles. Figure 1-23 shows cost data for four War Reserve inventories, each using a different Support Material commodity.

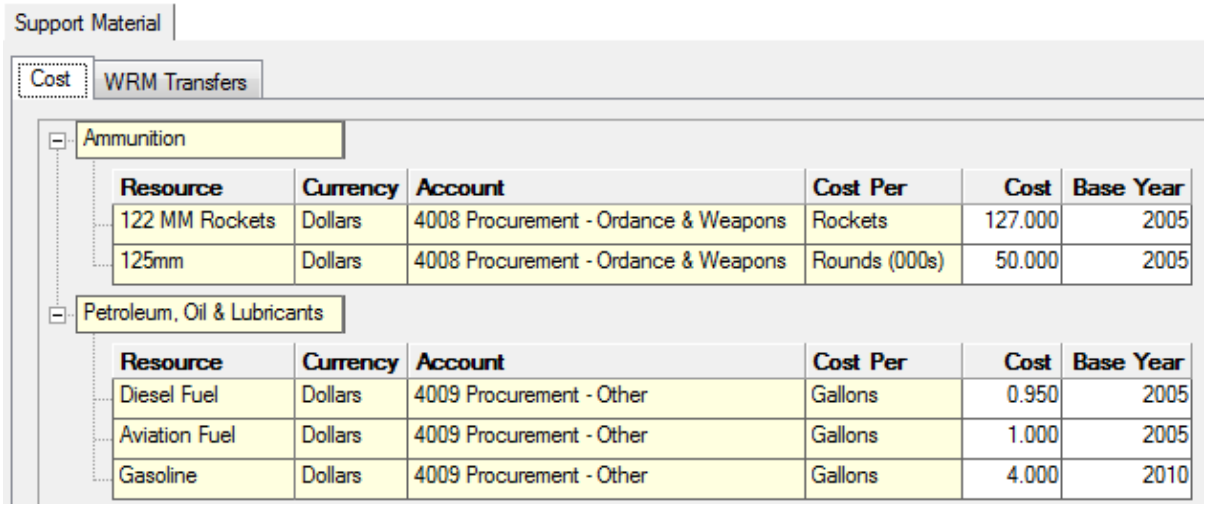


Figure 1-23. Example of Support Material Procurement

Other typical Investment costs include facility construction and research and development projects. The tool FOCIS uses for these types of costs is called the Budget Line Item interface, described in the next section.

Other Cost Tools

FOCIS provides three cost tools that are not included in either Operating or Investment costs.

- **Budget Line Items** represent any type of expense that is not estimated based on a Unit's resources or as some type of procurement. These costs can include general administrative operating expenses or specific investment projects like the construction of new facilities.
- **Proportional Costs** allow you to estimate some costs as a percentage of some other cost calculation. This function could be used to include the defense contribution to national insurance if it were based on paying some fixed percentage of salaries.
- **Financial data** include Inflation Rates (used to adjust historical data to current prices and to include the likely effects of future price increases) and Exchange Rates (used to convert costs from one currency to another).

Recommendations for creating cost factors and using the Cost Data windows are in Chapter 5, Cost Data.

Analysis Tools

FOCIS provides two powerful tools to support analysis of defense information and costs. The tools are designed to work together to allow you to create your own unique ways of investigating and documenting defense program alternatives. The first tool is known as "Analysis Models" and the second is a report generation tool that allows you to design and save many report formats.

Analysis Models allow you to describe some aspect of a defense program using a set of categories and subcategories that are useful in analyzing your own information. For example, often the threats that a country faces are not spread evenly throughout its territory and some regions have higher priority claims on resources. FOCIS allows a country to define region and sub-regions (if needed) so that the current and planned future use of resources can be easily shown and examined to ensure it matches the national defense priorities. A simple example of such a model is shown on the right in Figure 1-24.

Figure 1-24. Analysis Model Structure for Unit Location

After the model categories are created, every Unit is associated with one category and FOCIS then can use this information to show how any Unit Resource is distributed or how budgeted funds are allocated. For example, the Unit Locations model can be used to create a report that shows how manpower is allocated by Region.

The report shown in Figure 1-25 is designed to show Personnel Fill by Geographical Command. It shows that units in the Northern Command have the largest number of soldiers and the highest percentage of their Authorized manning. This information could be used to assess the appropriateness of the distribution of existing manning or show shortfalls by Service and Command. Other reports could be created to break these data down to a lower level of detail.

Unit Locati...	Unit Service	Pers...	2010 Actual	Authorized	Fill %
Northern Command	Land Forces	Active	6,609	7,767	85
	Air & Air Defense Forces	Active	4,343	5,104	85
	Naval Forces	Active	2,238	2,630	85
Northern Command Total			13,190	15,501	85
Western Command	Land Forces	Active	5,829	7,767	75
	Air & Air Defense Forces	Active	4,103	5,463	75
Western Command Total			9,932	13,230	75
Southern Command	Land Forces	Active	6,251	7,813	80
	Air & Air Defense Forces	Active	1,024	1,280	80
Southern Command Total			7,275	9,093	80
Captial Area	Land Forces	Active	10,032	14,322	70
	Air & Air Defense Forces	Active	81	115	70
Captial Area Total			10,113	14,437	70
Grand Total			40,510	52,261	78

Figure 1-25. Percent Fill for Active Personnel by Command

It may be important to understand the distribution of Land Forces manpower not just by Command but by Unit Type. If this was a significant issue in defense planning for the future, another Analysis Model could be created to divide Units by function or type. An example of such a model is shown in Figure 1-26.

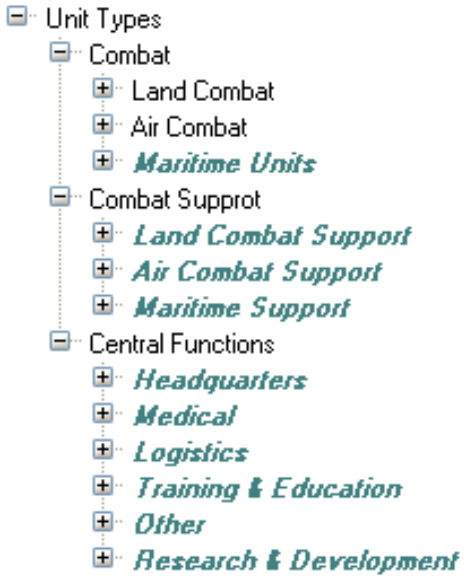


Figure 1-26. Analysis Model by Unit Type

If this model is used with the Unit Location model to create a new report, defense analysts and planners can then see how manning is distributed by location and Unit Type.

The report in Figure 1-27 shows the military manning data for Land Forces by Command and Unit Type. These data could then be used to plan improvements in the manning of Combat Units by identifying potential sources for transfers or simply to identify, for senior leaders, problem areas that may justify a request for authority to increase Land Force manning.

Unit Locati...	Unit Types (1)	2010		
		Actual	Authorized	Fill %
Northern Command	Combat	5,125	6,026	85
	Combat Support	1,462	1,717	85
	Central Functions	22	24	92
Northern Command Total		6,609	7,767	85
Western Command	Combat	4,520	6,026	75
	Combat Support	1,290	1,717	75
	Central Functions	19	24	79
Western Command Total		5,829	7,767	75
Southern Command	Combat	4,821	6,026	80
	Combat Support	1,373	1,717	80
	Central Functions	57	70	81
Southern Command Total		6,251	7,813	80
Captial Area	Combat	5,365	7,659	70
	Combat Support	1,203	1,717	70
	Central Functions	3,464	4,946	70
Captial Area Total		10,032	14,322	70
Grand Total		28,721	37,669	76

Figure 1-27. Report of Personnel Fill by Command and Unit Type

These data can be further explored at the individual Unit level or any specific personnel category (e.g., officers versus enlisted), if that proved to be an important aspect of a problem area.

Summary

To understand the links between resources and capabilities, defense managers must be able to see how resources are used by Units to produce (or have the potential to produce) capabilities. It is in the individual Units where resources (e.g., people, equipment, supplies, etc.) are actually used and outputs (e.g., capacities to perform tasks, missions, and functions of defense) are produced. The central concept behind FOCIS is that almost all resources can be tied to Units and Units can be tied to outputs, and that these resources can be linked to budgets.

Using this knowledge, defense managers can plan resource use so that the resources are better allocated to the Units and Activities that support the highest priority defense goals. Using similar information, defense leaders can avoid using too many of their scarce resources for Activities that are not as important. The end result is an increase in the production of priority outcomes with the same level of resources, which leads to an increase in effectiveness and efficiency—i.e., more important outputs produced with the same amount of resources.

FOCIS contributes to improving a county's defense resource management capabilities in several ways. Briefly stated, FOCIS:

- Improves budget planning:
    - Provides better understanding of how and where money is used,
    - Improves the ability to justify budget requests by increasing transparency in budget requests, and
    - Provides links between funding and several ways of describing defense capabilities.
- Improves access to critical information on the major characteristics of a defense program's content:
    - Provides a single, fully integrated source of information on the critical elements of the overall defense program plan—Manning, Equipment, Activities, and War Resources;
    - Provides an authoritative version of the official defense program plan that helps coordinate implementation; and
    - Allows program planning on the basis of how much will actually be done compared to how much is needed to be fully capable.
- Provides a tool for developing and analyzing multi-year defense plans:
    - That quantify the future financial impact of near-term decisions such as modernization decisions,
    - That are consistent with future resource levels,

- That allow you to more clearly understand how resources are being used relative to defense goals and objectives, and
- That time-phase the individual steps needed to accomplish mid-term objects.

Chapter 2.
FOCIS Setup Data

FOCIS users need to collect and enter several types of data to populate the FOCIS database:

- **Setup Data:** Information that describes the country's defense program in its own terms and in a manner consistent with the data that are available
    - **Organization Structure Data:** Information on the military units and civilian organizations that comprise the total defense program
    - **Unit Resources Data:** Information on the personnel and key material resources in each unit and organization
    - **Cost Data:** Information on the costs of purchasing, using, and maintaining the personnel and material resources of defense

This chapter of the FOCIS user's manual provides guidelines and recommendations that you should consider when creating the Setup Data lists used to describe the Organization Structure, Unit Resources, and Cost Data in FOCIS. This chapter also provides instructions on how to use each of the Setup windows. FOCIS Setup Data are organized into the following areas:

- Organization Structure
    - Services and Agencies
    - Command Levels
- Unit Resources
    - Personnel
    - Metrics
    - Equipment
    - Support Material
- Cost
    - Currencies
    - Cost Accounts
    - Budget Line Items

FOCIS also has a Setup window for creating Analysis Models. The description and use of that window is in Chapter 6, Analysis Models.

Using Setup Data in FOCIS

FOCIS Organization, Unit Resource, and Cost Data use basic defense terminology that varies from one country to another. Therefore, FOCIS allows each using country to create its own lists of these characteristics and calls this type of data Setup Data. The process of creating Setup Data is normally the first step in introducing FOCIS, but you can make refinements at any time as you identify new requirements.

You can create or edit the contents of the Setup lists using any language that is available through the Microsoft operating system Regional Language Settings.

Setup Data lists contain information on a wide range of defense characteristics that include simple lists, such as the list of Services and Agencies, as well as highly structured lists, such as the one used to categorize types of Personnel. The default installation version of FOCIS contains a small set of demonstration Setup Data that you can expand and revise to match your local practices. You must make these changes to Setup Data before any Organization, Unit Resource, or Cost Data are gathered or entered. The entries in these lists have a major influence on the ease or difficulty of data collection and shape the types of analysis that FOCIS can support.

> **Important:**
> There is a very strong temptation when a FOCIS project begins to start the data collection process almost immediately. However, experience has shown that taking time to weigh the options that FOCIS offers, before data collection starts, will ultimately save time. You will benefit in the end if you fully consider these choices before asking organizations to provide data.

Setup Data lists are prepared with the assistance of the U.S. FOCIS team members, who will share their experience in developing similar lists in other countries. The following example may make this clearer. The list of Services and Agencies and the list of Personnel Types are two types of FOCIS Setup data. *(Guidelines for developing these lists are provided later in this chapter).* For this example, assume that these lists are prepared as shown below:

Services and Agencies	Personnel Types
Ministry of Defense	Active - Officer
Armaments Department	Active - Enlisted
General Staff	Reserve - Officer
Army	Reserve - Enlisted
Navy	Civilian - Manager
Air Force	

During the initial data collection efforts, these lists will be used to gather data that identifies the Personnel in each Unit. You will receive Personnel quantities for each Unit by Personnel Type and Service or Agency that budgets those Personnel. However, if the Services and

Agencies list does not include all organizations whose budgets fund Personnel Costs, those providing the Unit Personnel Data will not be able to provide useful data. If the Personnel Types list is not created properly to match the local practices for manpower accounting, it will be difficult to gather this critical data. The point is that careful thought must go into creating the Setup Data Lists at the start of a FOCIS project and before you gather data for the model.

Likewise, if the list of Personnel Types does not cover all types of military and civilian personnel, data providers may be uncertain about what they need to provide. There are certain circumstances in which a simple list of Personnel Types is advantageous and other circumstances in which a further breakdown of Officers or Enlisted military would best support your uses of FOCIS.

FOCIS users must carefully consider the preparation of these lists of defense characteristics. The lists must be consistent with the practices in your own defense organization, they must be complete, and they should not be longer than necessary. Omitting needed entries can lead to delays in collecting the initial data set, but lists that are longer than they need to be will increase the difficulty of the data collection, data entry, and data maintenance without improving the usefulness of the result, so care should be taken when deciding on the appropriate level of detail.

The remaining material in this chapter describes each type of Setup Data. Each section contains a general discussion of the Setup Data type followed by a detailed description of how to use all of the functions of the FOCIS Setup Data windows. The introductory materials in each section are very important for those who are setting up FOCIS for the first time. This material provides recommendations on how to populate the data in each Setup area. Getting FOCIS Setup Data correct is one of the most important steps in starting to use the system.

Access to Setup Data Windows

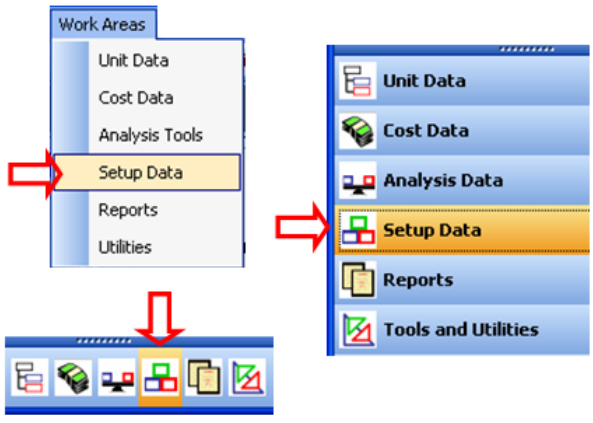


Figure 2-1. Accessing the Setup Data Window

FOCIS Setup Data windows are available in the Setup Data Work Area. You can open this work area through the main FOCIS Work Areas menu shown on the top left, or through the Explorer Bar shown on the right and at the bottom of Figure 2-1. Any of the selections shown with the red arrow will open the Setup Data Work Area with its functions navigation menu (Figure 2-2). This menu provides direct access to all Setup Data functions.

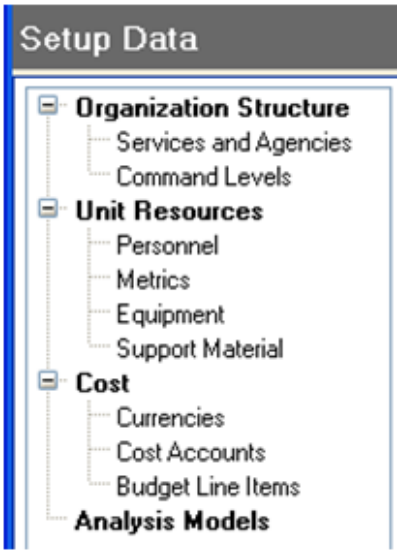


Figure 2-2. Setup Data Functions Menu

Setup Data windows have several common characteristics, which are described here and only repeated for special emphasis in later sections.

Common Setup Data Windows Functions

This section describes aspects of working with Setup Data that are common to all windows.

Working on Setup Data on a Network – The Refresh Function

When using FOCIS on a network, several users may have access to the same Setup Data. When multiple users attempt to update the same data at the same time, unexpected results may occur when another user has revised the data displayed on their screen since the time you opened the Setup window where you are working. Use the **Refresh** button at any time to re-load the data to see all changes that other users may have made. It is a good practice to use the **Refresh** button prior to making new additions or edits in existing data when there are other users working with the same type of Setup Data in a network setup.

Change Language for Text Entries

FOCIS allows you to enter any text using any language supported by the computer's operating system. You can switch among the languages that have been enabled by clicking on the language selection button (e.g., EN) found on all FOCIS data entry windows (Figure 2-3). You can use the button to change languages at any time, even while in a cell editing or entering text. It is possible to create text entries with only one, or with more than one, language in the same text entry (Figure 2-4).

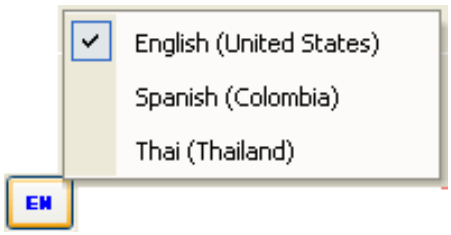


Figure 2-3. Example of Language Selection Options

Services and Agencies

Name	
กระทรวงกลาโหม MOD	กห. MOD
กองบัญชาการกองทัพไทย RTARF	บก.ทท. HQs
กองทัพบก RTA	ทบ. RTA
กองทัพเรือ RTN	ทร. RTN
กองทัพอากาศ RTAF	ทอ. RTAF

Figure 2-4. Example of FOCIS Text with Two Languages in the Same Item

Edit Text in a Cell

Setup Data consists of lists of characteristics that users create and, from time to time, need to edit. Edit Setup Data entries by clicking in the left half of the cell that contains the text where the change is desired. (**Note:** when clicking in the right half of a cell, drag-and-drop reordering is enabled.) When a cell is in text edit mode, it will appear as shown in Figure 2-5 (if a default Windows color scheme is being used, normal (black) text on a blue background).

Services and Agencies

Name	Abbreviation
Ministry Of Defense	MoD
General Staff	GS
Land Forces	LF
Air & Air Defense Forces	AF
Naval Forces	NF

Figure 2-5. Example of Cell Selected for Text Editing

Reorder a Setup List

Setup Data in a list is often displayed in the most common order. New entries in Setup lists are placed at the bottom of the list (except for Command Levels), but you can change the order of the lists at any time. Some of the Setup windows have ways to reorder their data that are unique to that type of data, but most windows allow reordering using a drag-and-drop technique. To reorder a list using drag-and-drop:

- Find the row of the item to be moved.
- Click and hold down the left mouse button in the right half of the cell that is in the left-most column, then drag to the desired new location (see Figure 2-6).

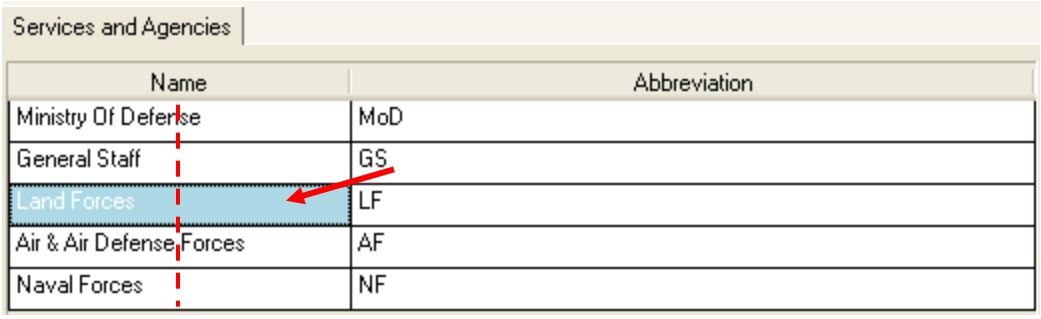


Figure 2-6. Example of Cell Selected for Drag-and-Drop Reordering

Primary and Alternate Labels

The labels on all FOCIS windows can be toggled between two different versions to allow the labels to appear in either English or any second language. For each label, there is both a Primary and Alternate language version of the text. The Primary labels are in English. The Alternate version of each label can be edited using any language supported by the computer's operating system (see Appendix IV, "Adding Language Support" and the "Translations" section of Chapter 8 for a complete explanation of setting up Languages and using FOCIS Translations).

You can change labels using the or icons, which are both in the toolbar and on all other pop-up screens. When the icon is showing, the Alternate labels are being used and clicking on the icon will change to the Primary labels (American English). When the icon is showing, the Primary labels are being used and clicking on the icon will change to the Alternate labels. FOCIS is delivered with default Alternate labels that are simply the "~" symbol added to the beginning of the Primary label. This allows Alternate labels to be used "out of the box," prior to translating every label.

You can enter a new Translation from any window by clicking on the Translations icon in the toolbar at the top of the window. This opens the Translation window.

Changing Windows Without Saving

FOCIS tracks when you change data on any window. If you leave the window to move to another window or to initiate some other action that depends on having all data saved, FOCIS prompts you with options (Figure 2-7).

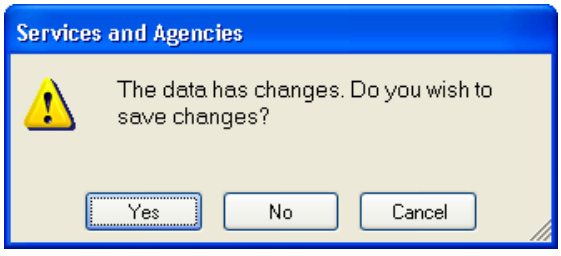


Figure 2-7. Save Changes Prompt

Clicking **Yes** saves all pending changes. Clicking **No** or **Cancel** restores the previous, unchanged values. In either case, FOCIS then leaves the current window and takes the requested action.

Finding and Removing All Uses of a Setup Item

Each Setup Data window provides you with the ability to see where in the Open Position database a specific Setup Data item has been used. Due to the interconnected nature of FOCIS data, this function is very useful during the long-term maintenance of the data as the use of FOCIS evolves.

One of the shortcut menu options available with all Setup Data is the **Show Uses** function. Select this option to see the Work Area and function for a particular metric. An example of the **Show Uses** function for the metric Flying Hours is shown in Figure 2-8.

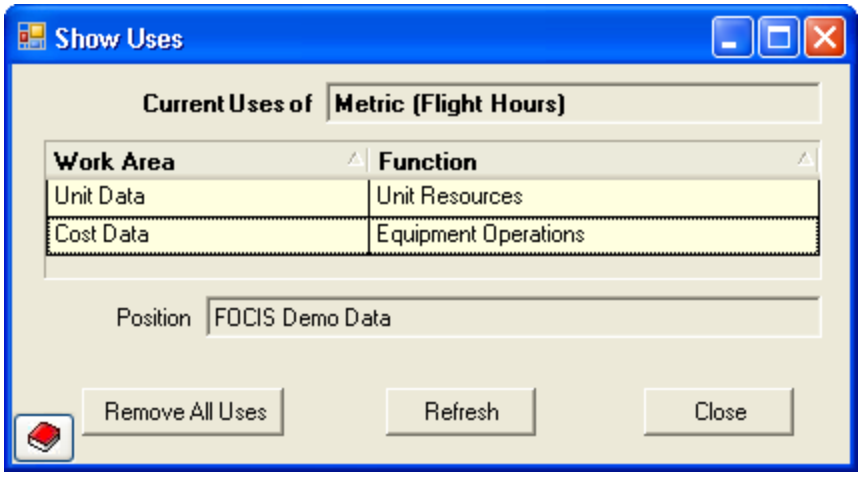


Figure 2-8. Show Uses Window

Note: If you have System Administrator permission, the **Remove All Uses** button is enabled. If you click this button, all uses of the selected metric will be removed from the database and **cannot be restored**. Use this feature with caution and, if uncertain if this is the desired action, make a Position Backup prior to using this function.

When you click the **Remove All Uses** button, the message seen in Figure 2-9 appears. Click **Yes** or **No** as appropriate.

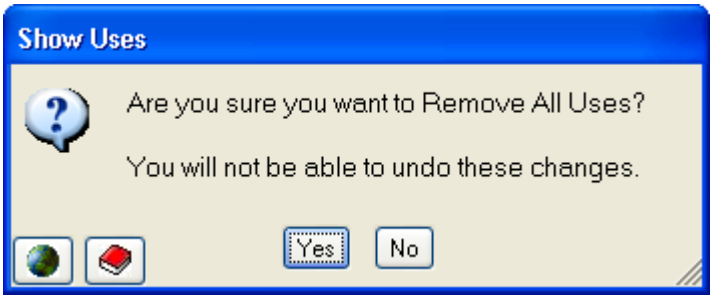


Figure 2-9. Remove All Uses Prompt

Properties

FOCIS tracks the date of every data entry and the user who made the change. Any user can choose to see this information for any data item by right-clicking on that item (not on a

header; on the item itself) and choosing the **Properties** option to display information as shown in Figure 2-10.

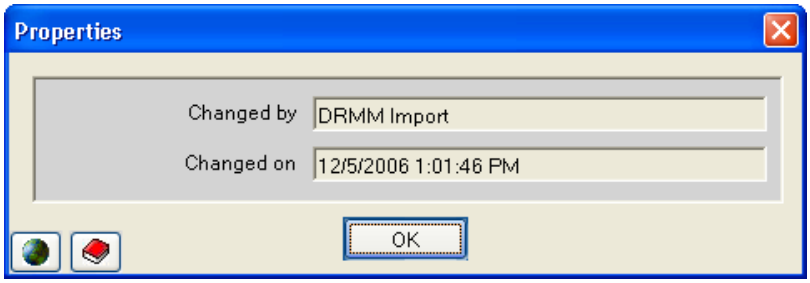


Figure 2-10. Properties Window

Organization Structure Setup Data Categories

Organization Structure is basic to FOCIS. All displays and calculations are based on the relationship of Units to each other and the hierarchy of those Units. How this structure is created has the greatest influence on all aspects of FOCIS. Figure 2-11 shows the categories in the Organization Structure Setup Data menu.

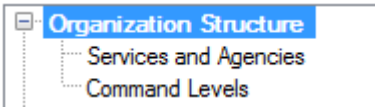


Figure 2-11. Organization Structure Menu

Services and Agencies Setup Data

Considerations in Developing the Services and Agencies Setup Data

FOCIS is a tool used to plan and analyze the manpower, material, and cost resources of a total defense program. One of the principal outputs of FOCIS is an estimate of future budget requirements needed to fund the defense program, described in future years.

Most countries divide their total defense budget into a second level by major organization budgets— typically military services and large defense agencies. To enable FOCIS to provide reports and analyses at this level of detail, the second-level budget holders must be listed and used when completing FOCIS data requests.

FOCIS is built on a description of a defense program's full organization structure. When constructing this representation of the defense organization, each military unit or other defense organization is identified as being part of a Service or Defense Agency. Using this unit characteristic, FOCIS produces reports and analyses of manpower, equipment, readiness, and other data by Service or Agency. When assembling the list of Services and Agencies, list the major defense organizations that you would want to use in generating reports of these types of resources. Considering this use of FOCIS, it is typical to list the Ministry of National Defense and the General Staff (or their equivalents) as Services or Agencies, even if they are not second-level budget holders.

FOCIS provides an initial list of Services and Agencies that can be modified by changing the names, adding new entries, or even removing any that are listed.

Note: The demonstration database has a simple organization structure with entries for a Ministry of Defense, General Staff, Army, Navy, and Air Force. Each of the default Services is used one time to create a default Unit representing the "Service" headquarters. You cannot delete a Service that is being used with any Units. Therefore, if you want to remove one of the default Services, you must first delete the corresponding default Unit.

The default list of services is:

- Ministry of Defense
- General Staff
- Land Forces
- Air & Air Defense Forces
- Naval Forces

Using the Services and Agencies Setup Window

The Services and Agencies window (shown in Figure 2-12) appears when you click the **Services and Agencies** function in the **Organization Structure** menu in the Setup Data Work Area.

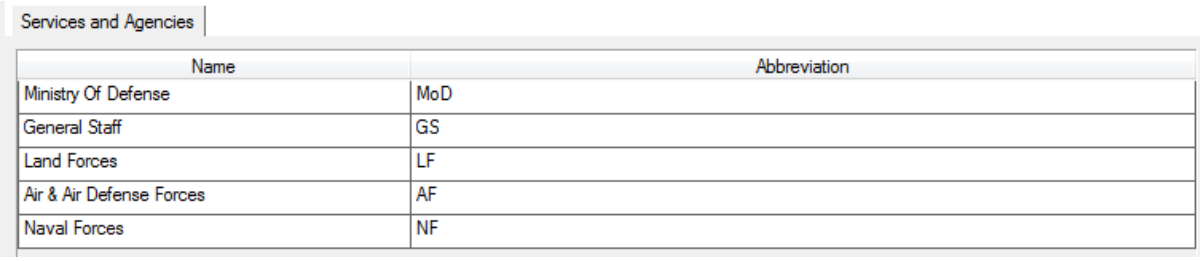


Figure 2-12. Services and Agencies Window

Using this window, you can:

- Add a new Service or Agency
- Revise the Name or Abbreviation of an existing Service or Agency
- Delete a Service or Agency
- Re-order the list display
- See where a Service or Agency has been used in the Open Position's data
- Identify the person who made the last change to an entry by viewing the entry's Properties window

Right-click anywhere in the grid to display the shortcut menu containing the **Add**, **Delete**, **Move**, **Order Alphabetically**, **Show Uses**, and **Properties** options. The shortcut menu options are shown in Figure 2-13.

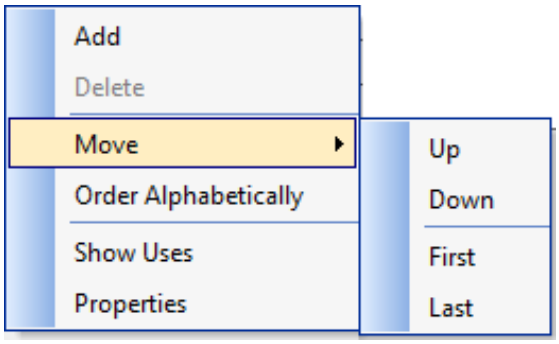


Figure 2-13. Services and Agencies Shortcut Menu Options

ADD: To add a new Service, click **Add**. After clicking, a new row is added to the display (Figure 2-14).

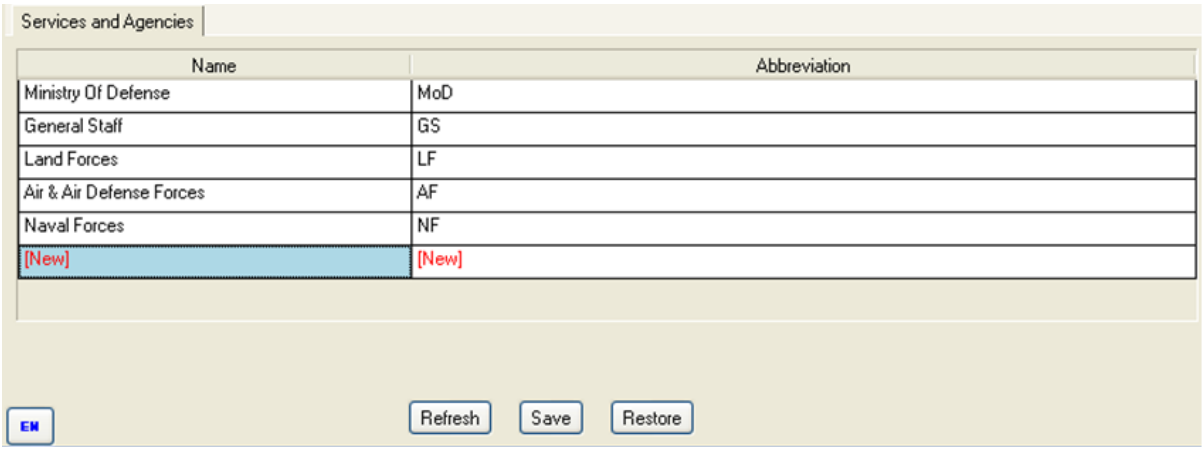


Figure 2-14. Services and Agencies Window with New Row

When the grid row with [New] appears, type in the new Service or Agency name. This will overwrite the word "[New]." The Abbreviation column automatically repeats the first 10 characters of the new entry. Use the Tab key to move to the Abbreviation column to change the Abbreviation, if desired, to a readily recognized Abbreviation. The Service Name and Abbreviation cannot duplicate an existing entry. If it does, FOCIS will provide a warning message as shown in Figure 2-15.

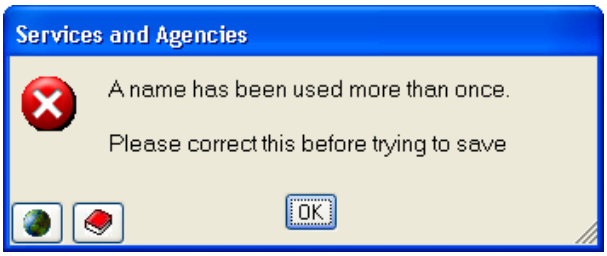


Figure 2-15. Services and Agencies Duplicate Entries Message

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

DELETE: If a Service or Agency has not been used to enter any FOCIS data, it can be removed by clicking the **Delete** option. If the Service or Agency has been used to enter any FOCIS data, the **Delete** option will be disabled (shows in light gray).

MOVE: You can change the order in which items are listed in either of two ways. One way to reorder the list is to click **Move** on the shortcut menu and choose and one of the options (**Up**, **Down**, **First**, or **Last)**. The other way is to use the drag-and-drop capabilities of the grid. To use drag-and-drop in this window, click on the Service or Agency you want to move and hold the mouse button down while dragging the selected row to its new position.

ORDER ALPHABETICALLY: Use this option if desired to place the list in alphabetical order.

> **Important:**
> The order selected here will determine the order of output in all reports.

SHOW USES: Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of this manual on page 2-7.

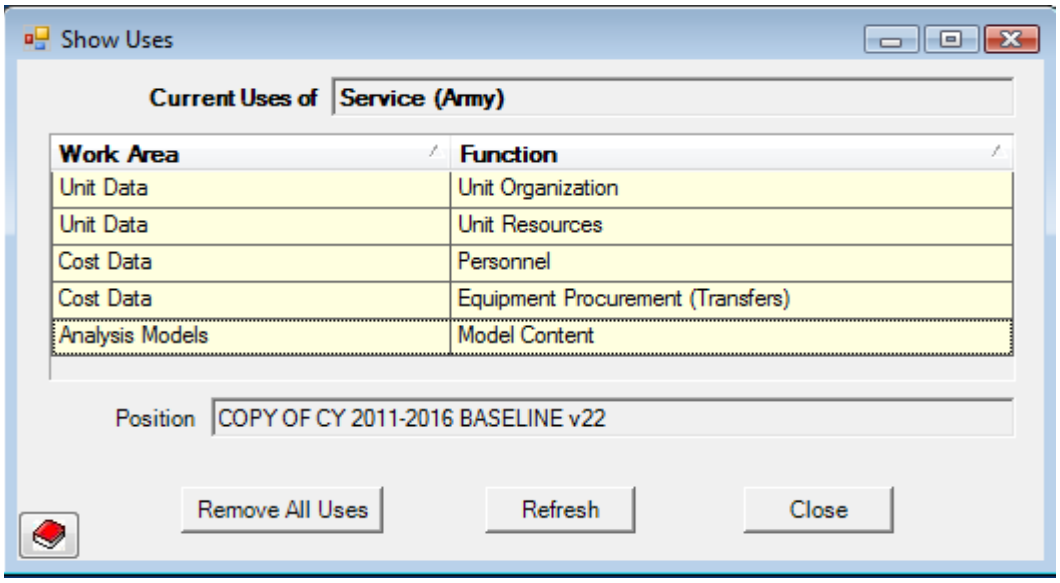


Figure 2-16. Show Uses Window for Services and Agencies

Even though the **Remove All Uses** button appears on the Show Uses window for Services and Agencies (Figure 2-16), FOCIS will not allow you to remove any data associated with the Unit Data Work Area. When a Setup Data element is used in the Unit Data Work Area, you must remove all of the associated Units before it can be deleted. For example, in Figure

2-16, in order to completely remove the Service "Army," you must remove all Units assigned to Army or reassign them to another Service.

PROPERTIES: Instructions for using this common function are found in the "Properties" section of this manual on page 2-7.

You can edit the Name or Abbreviation of a Service or Agency at any time by clicking anywhere on the text in the cell. Instructions for editing Setup Data entries are found in the "Edit Text in a Cell" section of this manual on page 2-5.

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Command Levels Setup Data

Considerations in Developing the Command Levels Setup Data

As you present your defense organization, you describe each Unit in terms of its level in the overall organization using descriptors like Division/Wing, Brigade, Battalion, Squadron, Group, etc. These organization levels are called Command Levels in FOCIS and are used to generate reports that summarize data in a consistent way.

You define the Command Levels you want to use prior to entering any Unit Organization data.

FOCIS enforces the rule that ***every Unit's parent (superior) Unit must have a Command Level that is higher than its own.*** FOCIS allows Units to have a parent whose command level is one or more levels higher. For example, a Brigade can report to the General Staff (a typical command level) but a Brigade cannot report to a Battalion as its parent, as a Battalion is at a lower level than a Brigade.

The following Command Levels appear in the Startup version of FOCIS databases.

- Ministry of Defense
- General Staff
- Service Level
- Corps
- Division/Wing
- Brigade
- Regiment
- Battalion/Squadron
- Company

Using the Command Levels Window

The Command Levels window (shown in Figure 2-17) appears when you click **Command Levels** in the Organization Structure menu in the Setup Data Work Area.

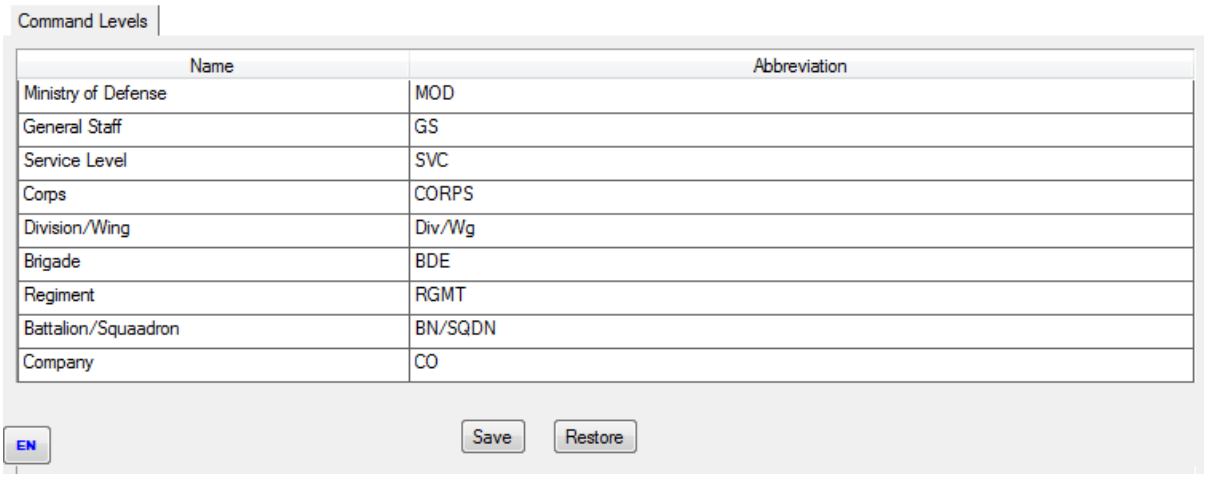


Figure 2-17. Command Levels Window

Using this window, you can:

- Add a new Command Level
- Revise the name or Abbreviation of an existing Command Level
- Delete a Command Level
- See the uses of a Command Level
- Identify the person who made the last change to an entry by viewing the entry's Properties

Unlike other Setup windows, you cannot reorder Command Levels. Command Levels are used in creating Units and generating summary reports. To permit accurate summarization of data below each Unit of a particular Command Level, the Command Level order must be maintained in its original order.

Right-click anywhere in the grid to display the shortcut menu containing the **Insert After**, **Delete**, **Show Uses**, and **Properties** options. The shortcut menu options are shown in Figure 2-18. Additionally, the **Insert Before** shortcut menu option is available if you right-click on the highest Command Level (for example, Ministry of Defense in Figure 2-17), as discussed below.

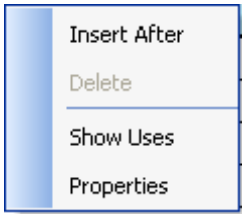


Figure 2-18. Command Levels Shortcut Menu Options

INSERT BEFORE: When you right-click on the highest Command Level, an additional shortcut menu option (**Insert Before**) appears that allows you to create a Command Level above the current top Command Level. This may be necessary in the rare circumstance that you need to add a Unit that is parallel to the Ministry of Defense (e.g., the Ministry of Interior) (Figure 2-19).

Command Levels

Name	Abbreviation
[New]	
Ministry of Defense	MOD
General Staff	GS
Service Level	SVC
Corps	CORPS
Division/Wing	Div/Wg
Brigade	BDE
Regiment	RGMT
Battalion/Squadron	BN/SQDN
Company	CO

Figure 2-19. Command Levels Window with New Row Inserted Before

INSERT AFTER: To add a new Command Level, click **Insert After**. A new row is added to the display (Figure 2-20).

Command Levels

Name	Abbreviation
Ministry of Defense	MOD
General Staff	GS
Service Level	SVC
Corps	CORPS
Division/Wing	Div/Wg
Brigade	BDE
[New]	
Regiment	RGMT
Battalion/Squadron	BN/SQDN
Company	CO

Figure 2-20. Command Levels Window with New Row Inserted After

When the grid row with [New] appears, type in the new Command Level name. This will overwrite the word "[New]." The Abbreviation column automatically repeats the first 10 characters of the new entry. Use the Tab key to move to the Abbreviation column to change the Abbreviation, if desired, to a readily recognized Abbreviation. When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

DELETE: If a Command Level has not been used to enter any FOCIS data, it can be removed by clicking the **Delete** option, but this is not a required action. If the Command Level has been used to enter any FOCIS data, the **Delete** option will be disabled (shows in light gray).

SHOW USES: Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of this manual on page 2-7. The **Show Uses** window for Command Levels (Figure 2-21) shows the Unit Data Work Area and Unit Organization function. The **Remove All Uses** button is disabled, because the models will not

allow removal of data that has the Unit Organization function. The Command Levels are used only in the Unit Data Work Area; a Command Level cannot be removed until all the Units assigned to that Command Level are removed or reassigned to another Command Level.

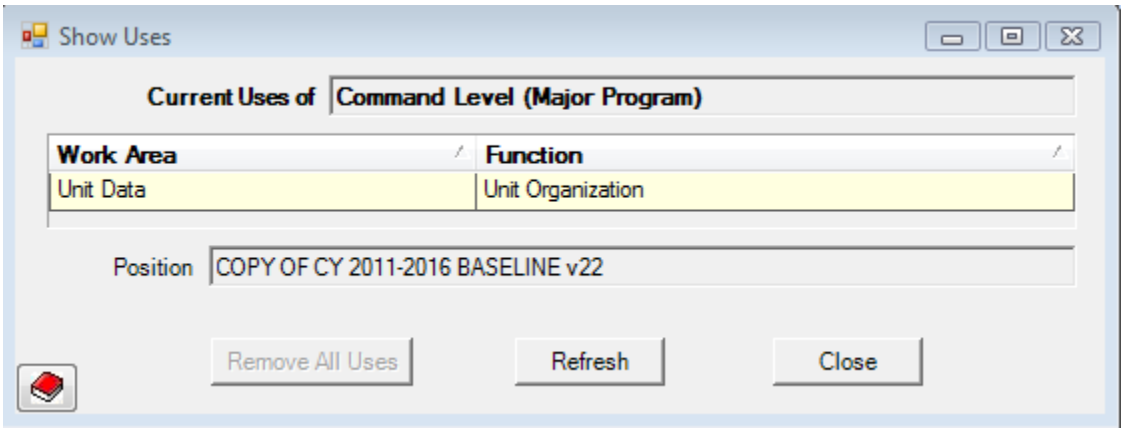


Figure 2-21. Show Uses Window for Command Levels

PROPERTIES: Instructions for using this common function are found in the "Properties" section of this manual on page 2-7.

You can edit the Name or Abbreviation of a Command Level at any time by clicking anywhere on the text in the cell. Instructions for editing Setup Data entries are found in the "Edit Text in a Cell" section of this manual on page 2-5.

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Unit Resources

The Unit Resources Setup Data category contains lists of the types of resources that are critical to Unit capabilities and are the basis for the resource quantities and cost data that can be associated with those Units. Personnel, Equipment, and War Reserve Material are the major assets found in any Unit. The Unit Resources menu is shown in Figure 2-22.

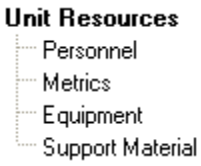


Figure 2-22. Unit Resources Menu

Equipment Use and War Reserve Material data use Metrics to describe the unit of measure used with each "item." The following sections describe each of the types of Setup Data from two perspectives. Each section first explains how a type of Setup Data is used in a FOCIS database and the considerations you must be aware of as you build the contents of that type of data. The second part of each section is a detailed description of how to use each of these Setup Data windows.

Personnel Setup Data

Considerations in Developing the Personnel Setup Data

Each FOCIS database contains data on Personnel (also called Unit Manpower) by Unit. To account for the different types and grades of these people, FOCIS uses a Setup Data category called Personnel Type. The Personnel Setup Data windows allow you to create Personnel Types that are consistent with your country's normal practices for Personnel management information.

FOCIS defines Personnel Types in four general Classes commonly found in defense programs around the world. **These four Personnel Classes are fixed in FOCIS and cannot be changed.** All Personnel Types are created within these broad Classes:

- Active Personnel: Personnel whose full-time occupation is the military. Costs for personnel in this Class are calculated based on the number of active military Personnel actually assigned to a unit.

- Reserve Personnel: Personnel whose full-time occupation is not the military but are available to serve in a crisis. Typically, Reserve Personnel attend refresher training. Costs for Personnel in this Class are calculated based on the number of training days during a year.

- Civilian Personnel: Personnel whose full-time occupation is working with defense but not as military members. Costs for Personnel in this Class are calculated based on the number of civilian Personnel actually assigned to a Unit.

- Other Personnel: used for any type of Personnel whose costs or quantities should not be included with totals of Active, Reserve, or Civilian Personnel but do cause defense to incur some type of cost. Some examples of Personnel Types that are created within this Class are Retirees, Cadets, and Students. Costs for Personnel in this Class are calculated based on the number of Personnel actually assigned to a Unit.

FOCIS uses Personnel Types to document Unit manning and to calculate Personnel costs. Cost factors are created for every Personnel Type and Service. FOCIS's use of Personnel Types as the basis for creating separate cost factors is a major consideration when deciding what Personnel Types to create. The other consideration when creating Personnel Types is the level of detail that is desired in unit manpower reports.

Because FOCIS uses Personnel Type information both to account for and report on manning and costs, two levels of definition are provided for use within the Personnel Classes to create Personnel Types. The first level of definition is called the Personnel Category and typically identifies the major groupings that are of interest in manning reports and analyses. In FOCIS, several default Personnel Categories are provided.

The default Personnel Categories displayed in the FOCIS Demo Data Position are:

- General Officer
- Field Grade Officer
- Company Grade Officer
- Enlisted
- Conscript
- Senior Manager
- Manager
- Analyst
- Technician
- Laborer
- Student/Cadet

As you can readily see, not all of these Categories would be used with any one Personnel Class. For example, General Officer would not be used with the Personnel Class of Civilian, and Manager would not be used with the Active Personnel Class. However, a Personnel Category such as Enlisted might be used with both Active and Reserve Personnel.

The problem with stopping at this level is that there are special groups of individuals who receive additional allowances. The most common example is pilots. FOCIS provides the ability to create Pay Levels that can be combined with Personnel Categories within a Personnel Class to create Personnel Types.

The default Pay Levels displayed in the FOCIS Demo Data Position are:

- Regular
- Average Pay (Avg Pay)
- Pilot
- Commando

Using the Personnel Classes, Personnel Categories, and Pay Levels, FOCIS provides the following examples of default Personnel Types:

Active General Officer (Avg Pay) Active Company Grade Officer (Pilot Pay)	Reserve General Officer (Avg Pay)
Active Enlisted (Avg Pay) Active Enlisted (Commando)	Reserve Enlisted (Avg Pay)
Civilian Manager (Avg Pay) Civilian Technician (Avg Pay) Civilian Laborer (Avg Pay)	
Other Student/Cadet (Avg Pay)	

These default Personnel Types may not be the right set for every country. Therefore, you need to consider carefully what Personnel Types best describe your country's data and how you will use FOCIS.

Choosing Personnel Types is a very important step. Some countries have chosen to create many Personnel Types and later found that this had significant, negative consequences. The first problem they encountered was that it greatly increased the data collection effort. Next they found that this also increased the time and effort required for entering the data for both Units and Personnel costs. Having overcome these one-time problems, they then found that as they built alternative program plans covering several years, making changes to Unit manning required a lot of extra time to adjust the data for many Personnel Types and the accuracy of the results was not improved by having extra Personnel Types. In general, the fewer Personnel Types created, the easier it is to use FOCIS. The goal is to identify the minimum set needed to preserve useful accuracy in the total program cost estimates and to provide the types of breakouts that are meaningful in Unit Manpower reports.

Using the Personnel Types Window

The Personnel Types Setup window (shown in Figure 2-23) appears when you click **Personnel** in the Unit Resources menu in the Setup Data Work Area. It provides access to all three elements needed to create Personnel Types on one screen—the top left portion displays the list of Personnel Categories, the top right portion displays the list of Pay Levels, and the bottom portion provides access to the area where you create the Personnel Types.

A movable horizontal divider between the top two sections and the bottom section allows the window areas to be adjusted to make working with long lists on either the top or bottom easier.

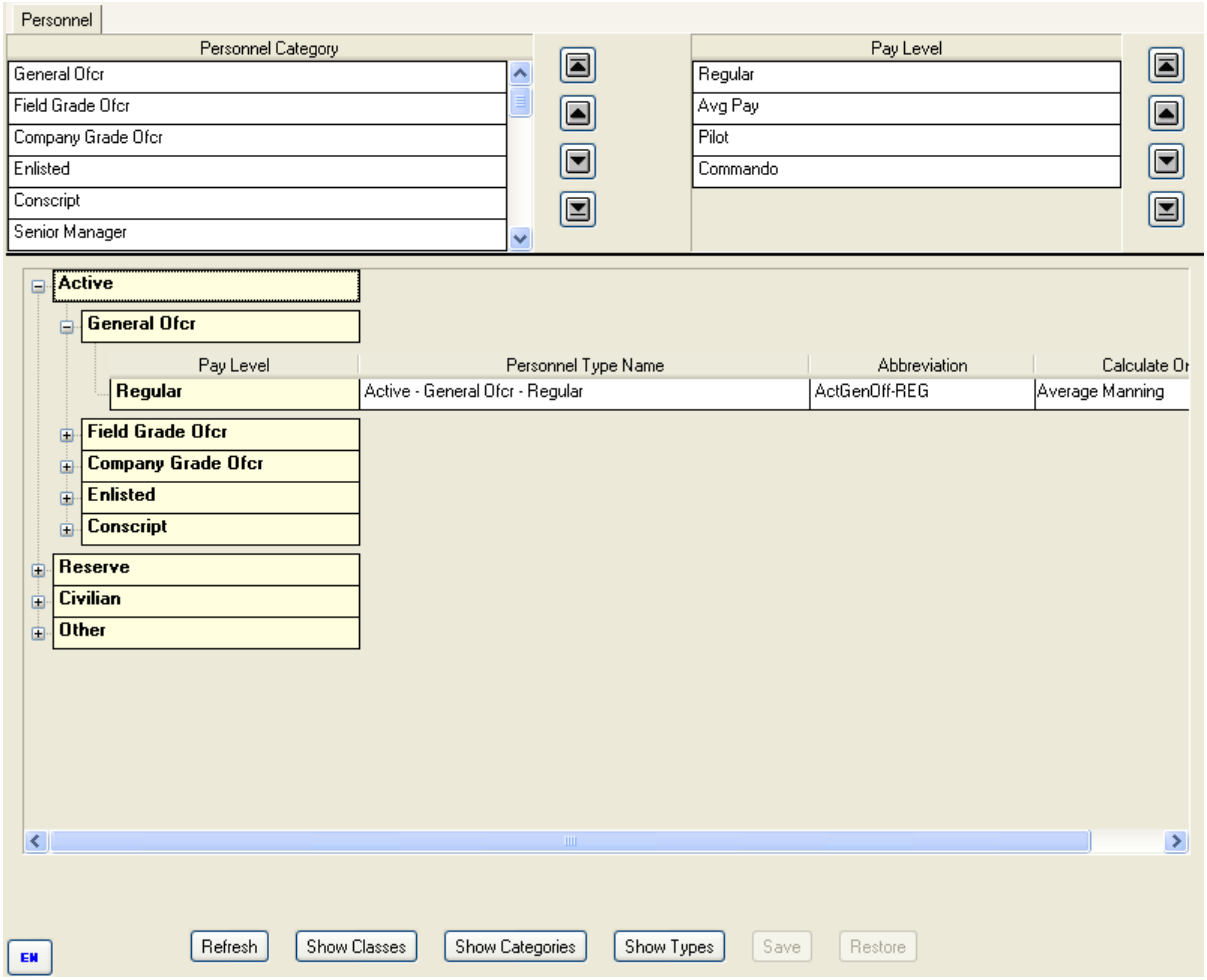


Figure 2-23. Personnel Types Window

You can revise the lists of Personnel Categories and Pay Levels in several ways. Right-click anywhere within either the Personnel Category or Pay Level list to display the shortcut menu containing **Edit**, **Add**, **Delete**, **Order Alphabetically**, **Show Uses**, **Reset Names**, and **Properties** options. The shortcut menu options are shown in Figure 2-24. See below for other methods to reorder the information in these two lists. You can also see who entered data by selecting **Properties**.

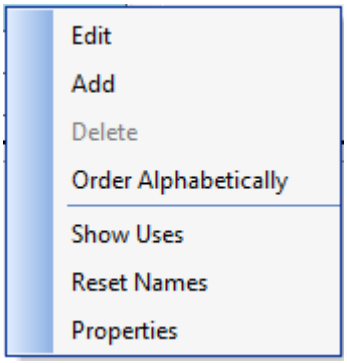


Figure 2-24. Personnel Category and Pay Level Shortcut Menu Options

EDIT: An existing name can be changed by clicking on the text in any cell or right-clicking in the cell and then selecting **Edit**.

ADD: A new Personnel Category or Pay Level can be added by clicking **Add** on the shortcut menu. This will add a new row at the bottom of the list, as shown in Figure 2-25. Click in this cell to enter the new name. When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

DELETE: A Personnel Category or Pay Level that is not used can be deleted by selecting this option.

ORDER ALPHABETICALLY: Use this option, if desired, to arrange the entries alphabetically.

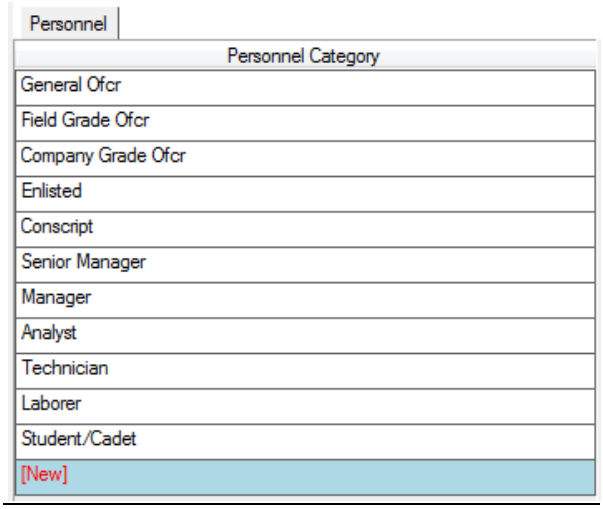


Figure 2-25. Personnel Category List with New Row

RESET NAMES: As Personnel Types are created and named, some inconsistencies in the naming format can occur as multiple users add and edit the data. If you want to rename all Personnel Types using a standard naming style, select **Reset Names** on the shortcut menu. When you do, the Reset Names window will appear (Figure 2-26).

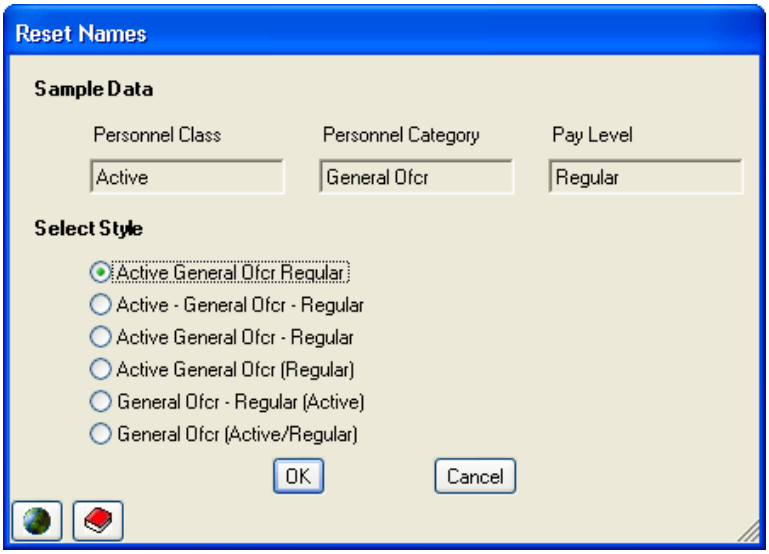


Figure 2-26. Reset Names Window

The window shows six naming styles, each illustrated using the existing data (so your display may differ from the one shown above). Choose a style and click **OK** to reset all names.

SHOW USES: Click **Show Uses** to see where a particular Personnel Category or Pay Level is used. Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of this manual on page 2-6.

Personnel Category and Pay Level entries tend to have a natural order. For example, you normally expect to see a list of Personnel with Generals, Senior Officers, and Junior Officers in that order, not alphabetically. FOCIS accommodates the desire to see Personnel Types in this order by allowing the lists of Personnel Category and Pay Level to appear in any order.

In Figure 2-27, a user has clicked on the Personnel Category "Technician" ① and then clicked the up arrow ②, which caused the "Technician" entry to move up one position.

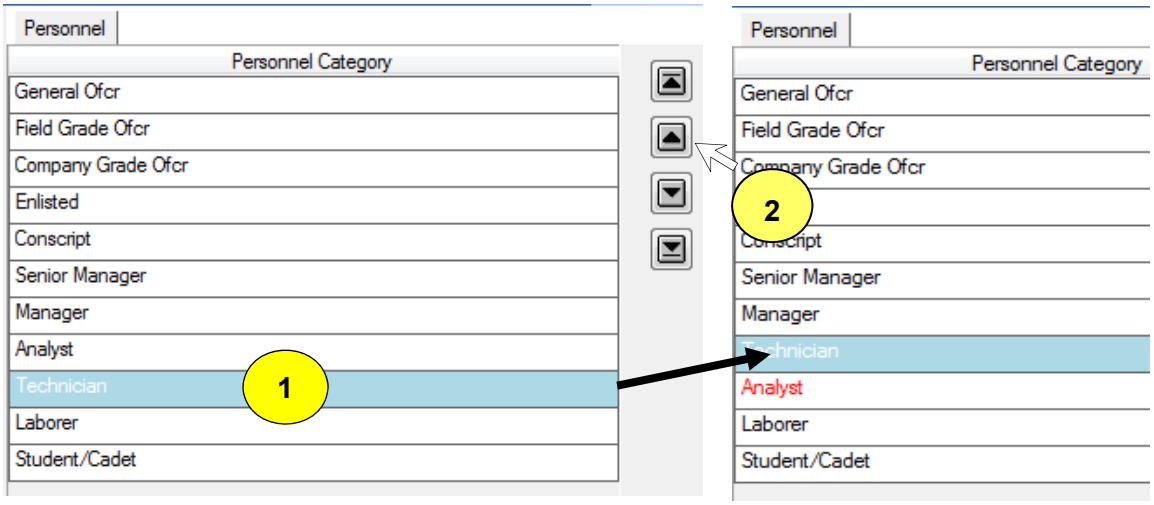


Figure 2-27. Example of Reordering the Personnel Category List

Items in the Personnel Category or Pay Level lists can also be moved by clicking in the right half of the entry to be moved, holding the left mouse button down, and dragging the item to its new location (drag-and-drop method).

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

After reordering the Categories, the list of Personnel Types will automatically use the new order whenever Personnel Types are listed in a report.

Create Personnel Types

You create Personnel Types by combining one choice from each of three lists: Personnel Class, Personnel Category, and Pay Level.

	Personnel Class	Personnel Category	Pay Level
Examples	*Active* *Reserve* *Civilian* *Other*	*Senior Officer* *NCO* *Soldier* *Manager*	*Regular* *Pilot* *At Sea* *Commando*
	Fixed in FOCIS	User Created Lists	
	Personnel Types		
Examples	*Active Senior Officer - Regular Pay* *Active Senior Officer - Sea Pay* *Active NCO - Commando Pay* *Reserve Soldier - Regular Pay* *Civilian Manager - Regular Pay*		

By creating Personnel Types based on these three components, reports and analyses can be generated that summarize data by Personnel Class (e.g., all Active) or by Personnel Category (e.g., Senior Officer, NCO), even though you enter the details at lower levels of detail (i.e., by Personnel Type) (Figure 2-28).

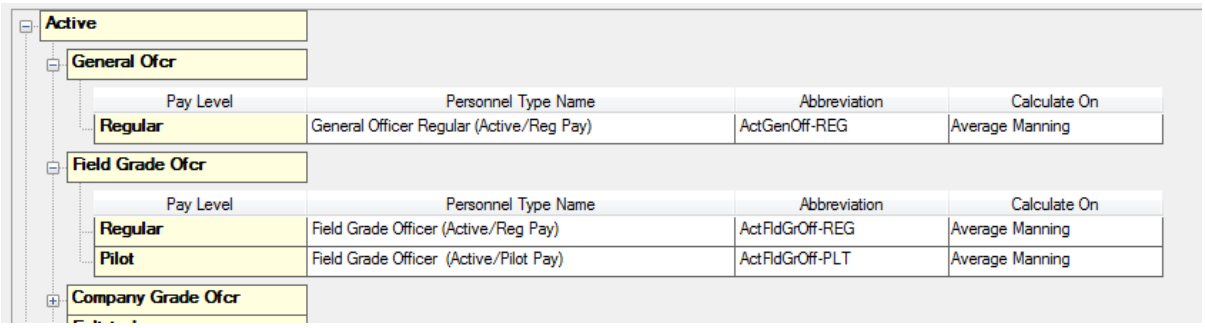


Figure 2-28. Sample Personnel Types

Existing Personnel Types are listed in the lower portion of the window grouped by Personnel Class (e.g., Active, Reserve), Category (e.g., General Officer, Field Grade Officer), and Pay Level (e.g., Avg Pay). Each entry displays an editable Personnel Type Name, an Abbreviation, and a Calculate On field where you select whether the costs for each Type are calculated based on the average manning in a year or only based on the quantity recorded for that year (typically the number of Personnel at the end of the year). The Calculate On field is completed using a drop-down arrow that appears when you hold your cursor over the field for the specific Personnel Type. Personnel Type Names or Abbreviations can be used with Reports and to identify Personnel in an Excel worksheet that is used to import Manpower

data. (See the “Import Unit Resources by Type” section of Chapter 8 for detailed instructions.)

Personnel Type Names and Abbreviations cannot have any duplicates. If you try to save two items with the same Name or Abbreviation, FOCIS will display an error message. Sometimes when working in a network environment, two different users may accidentally use the same Name or Abbreviation while creating or editing Personnel Types. This can occasionally result in FOCIS discovering this after both entries are saved. When detected, FOCIS will show the message displayed in Figure 2-29.

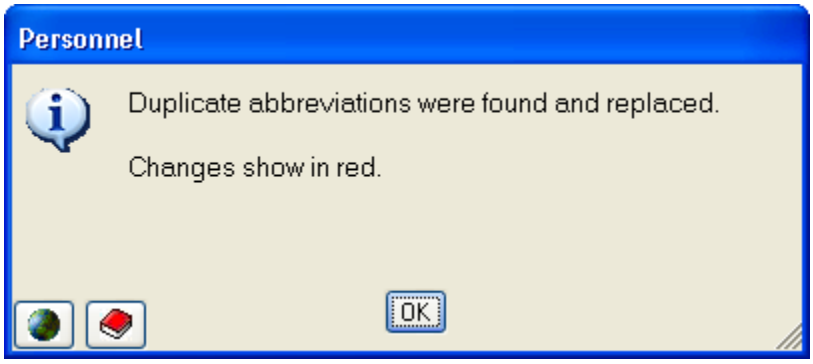


Figure 2-29. Personnel Duplicate Entries Message

When FOCIS finds this condition, it will replace one of the duplicate Abbreviations with a unique temporary Abbreviation (e.g., dup1) and show this entry in **red** on the screen. If this occurs, revise the temporary Abbreviation and save it. If the message appears again, make sure that more duplicates were not found (they will have their own unique temporary Abbreviations and also show in **red**.).

Right-click anywhere on the list of Personnel Types to display the shortcut menu containing **Add**, **Delete**, **Show Uses**, **Reset Names**, and **Properties** options. The shortcut menu options are shown in Figure 2-30. Change the Name/Abbreviation of a Personnel Type by clicking on the Name/Abbreviation. The order in which Personnel Types are displayed cannot be changed, as it is based wholly on the orders of the Personnel Category and Pay Level lists.

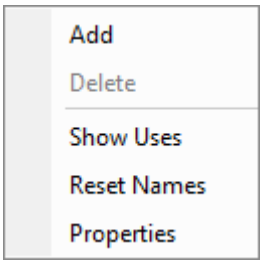


Figure 2-30. Personnel Types Shortcut Menu Options

ADD: When you choose the **Add** function, an Add window opens, as shown in Figure 2-31.

The window will open with the Personnel Class and Category set to match the Personnel Type on which you right-clicked. The Pay Level will be set to one of the unused Pay Levels for the selected Class and Category. If all Pay Levels have been used, no options will appear in the list of Pay Levels. These defaults can be changed to any unused combination.

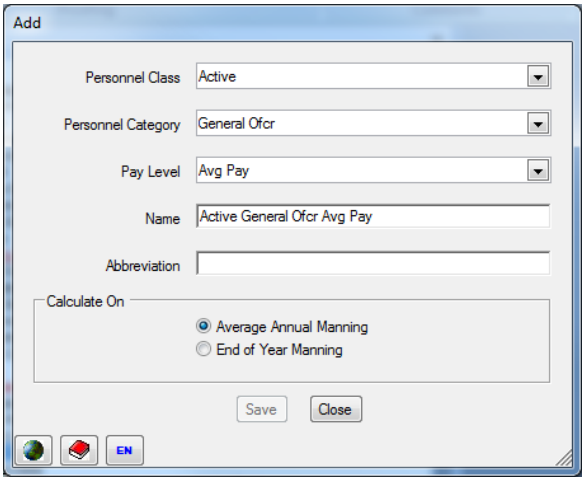


Figure 2-31. Add Window

The Name field contains a combination of Class, Category, and Pay Level as entered on those lists. This Name can be edited. The Abbreviation will initially be blank, but a unique entry must be made before FOCIS will allow you to save the new Personnel Type (the **Save** button is not active while this entry is blank (Figure 2-32)). Before clicking the **Save** button, select the basis for the calculations. The window will stay open after clicking the **Save** button so that you can add multiple entries at one time. Click the **Close** button when you have added all desired new types.

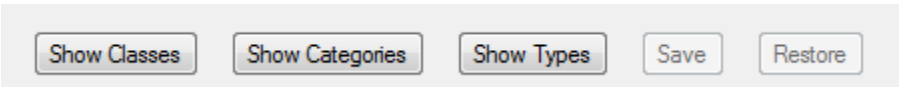


Figure 2-32. Buttons with Inactive Save Button

After adding new Personnel Types using the **Add** window, the Personnel Type list shows all new Personnel Types in **red** text.

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Use the **Show Classes** button to change the display as shown in Figure 2-33:

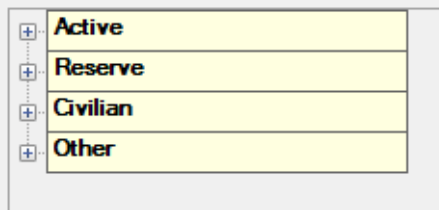


Figure 2-33. Show Classes Display

Use the **Show Categories** button to change the display as shown in Figure 2-34:

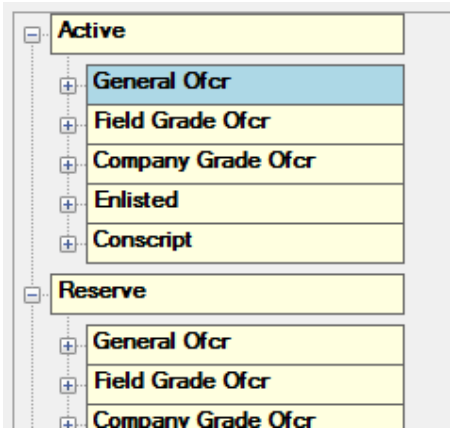


Figure 2-34. Show Categories Display

Use the **Show Types** button to display the complete list of Personnel Types.

Metrics Setup Data

Considerations in Developing the Metrics Setup Data

FOCIS describes how Equipment is used and the types of Unit activities by using terms such as flying hours, steaming days, kilometers, field training exercises, and rounds fired. FOCIS calls these measures of activity "Metrics." Metrics also describe the quantity measure of a Support Material item—for example, "gallons" to describe the amount of fuel oil in War Reserve stockpiles. You can create any number of Metrics using the Metrics Setup window.

Metrics are used as described below:

3. Equipment Use Metrics: As you create and modify the list of Equipment in the Equipment Setup window, you have the option to identify the measures of Equipment Use (i.e., Metrics) that best describe how each Equipment Item is used for training and operational activities. These same Metrics are also typically used to create the cost factors used with each Equipment Item.

   Some of the Metrics that often describe Equipment Use (one of the five Unit Resources) include:

   - Kilometers, to describe the use of land vehicles;
   - Flying hours, to describe the use of aircraft and helicopters; and
   - Steaming hours, to describe the use of ships.

   In some cases, users assign multiple Metrics to an Equipment Item. For example, a tank's use and its operating costs are often described using both kilometers and rounds fired. In other situations, two very similar Metrics may be created to provide more visibility in planning the future use of resources. For example, aircraft are often used to support ongoing operations and for pilot training. Even if

the costs per flying hour are the same for both, you may want separate visibility into the planning for both types of flying hours, so two different Metrics would be created, “Flying Hours – Operations” and “Flying Hours – Training.”

4. Planning Unit Activities: When considering how to describe the costs of some Units, it may be useful to associate measures of Unit activity with those Units.

   For example, ground combat Units often participate in extensive field training events. Planning these events for individual Units may be an important program planning objective, so a Metric can be created called Field Training Exercises. As plans are made for future years, the frequency of these exercises can be used to document the plan. If there are costs associated with these events, cost factors can be created that will add costs to the budgets for Units in years when Field Training Exercises are planned.

   Another example of Unit activity might be estimating some of the expenses of operating a hospital or school. In the first case, a Metric of Patient Days might be created and used to describe hospital loading. In the second case, Student Days might be created and used to describe school loading. These Metrics can then be used to create cost factors per Patient Day or per Student Day and, as plans are made, adequate funding will be included in these Units’ budget estimates.

5. Support Material: As the list of the Support Material Items tracked in FOCIS is developed, you need to decide exactly what the quantities used with that item mean.

   If you intend to track something like 9mm ammunition, it must be clear to all FOCIS users whether entries are in rounds, thousands of rounds, or some other Metric. As you add each Support Material Item to the list, you must identify a Metric that describes the quantity.

An initial set of Metrics that will be used to describe Equipment Use, Unit Activity, or War Reserves is added to the list of Metrics in the early phases of setting up a Position database. It is also common to find that additional Metrics are required. New Metrics can be added at any time. FOCIS provides a list of default Metrics in the Demo Database similar to the one shown in Figure 2-35.

Metrics are sometimes defined in a way that includes a scaling factor. For example, 7.62 ammunition may be best described in terms of thousands of rounds used or Ship Fuel Oil in terms of thousands of barrels of oil. If this applies, simply create the metric name as "Rounds (000s)" or "Barrels – thousands." This will ensure that all users understand that an entry of 100 actually refers to 100,000 rounds or 100,000 barrels.

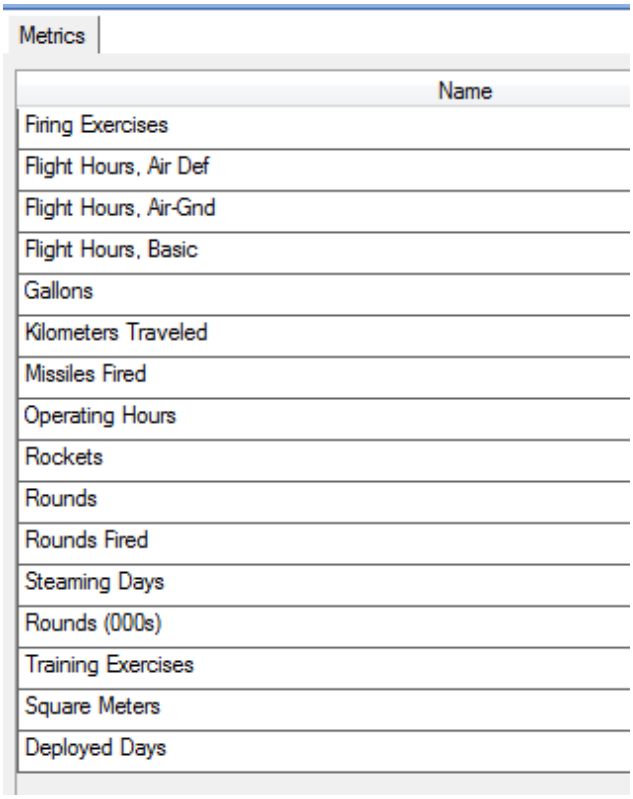


Figure 2-35. Default Metrics List

Using the Metrics Window

The Metrics window (shown in Figure 2-36) appears when you click **Metrics** in the Unit Resources menu in the Setup Data Work Area.

Metrics

Name	Abbreviation	Unit Activity	Equipment	Material
Firing Exercises	FIREXES	☑	☑	☐
Flight Hours, Air Def	FLTHRSAD	☐	☑	☐
Flight Hours, Air-Gnd	FLTHRSAG	☐	☑	☐
Flight Hours, Basic	FLTHRSBA	☐	☑	☐
Gallons	GAL	☐	☐	☑
Kilometers Traveled	TNGKMS	☐	☑	☐
Missiles Fired	MSLFRD	☐	☑	☐
Operating Hours	OPNGHRS	☐	☐	☐
Rockets	RKTS	☐	☐	☑
Rounds	Rnds	☐	☐	☑
Rounds Fired	RDSFIRED	☐	☑	☐
Steaming Days	STMDAYS	☐	☑	☐
Rounds (000s)	RNDS-K	☐	☐	☑
Training Exercises	TNGEX	☑	☐	☐
Square Meters	M2	☐	☑	☐
Deployed Days	DAYS	☑	☐	☐

Figure 2-36. Metrics Window

Using this window, you can:

- Add a new Metric
- Delete one of the Metrics if it has not been used
- Reorder the list of Metrics
- See where the Metric is used
- Identify the person who made the last change to an entry by viewing the entry's Properties

Right-click anywhere in the Metrics grid to display the shortcut menu containing the **Add**, **Delete**, **Move**, **Order Alphabetically**, **Show Uses**, and **Properties** options. The shortcut menu options are shown in Figure 2-37.

ADD: To add a new Metric, click **Add** with the left mouse button. After clicking **Add**, a new row is added to the display (Figure 2-38).

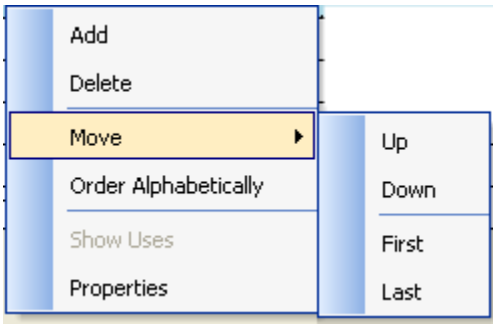


Figure 2-37. Metrics Shortcut Menu Options

Metrics

Name	Abbreviation	Unit Activity	Equipment	Material
Firing Exercises	FIREXES	☑	☑	☐
Flight Hours, Air Def	FLTHRSAD	☐	☑	☐
Flight Hours, Air-Gnd	FLTHRSAG	☐	☑	☐
Flight Hours, Basic	FLTHRSBA	☐	☑	☐
Gallons	GAL	☐	☐	☑
Kilometers Traveled	TNGKMS	☐	☑	☐
Missiles Fired	MSLFRD	☐	☑	☐
Operating Hours	OPNGHRS	☐	☐	☐
Rockets	RKTS	☐	☐	☑
Rounds	Rnds	☐	☐	☑
Rounds Fired	RDSFIRED	☐	☑	☐
Steaming Days	STMDAYS	☐	☑	☐
Rounds (000s)	RNDS-K	☐	☐	☑
Training Exercises	TNGEX	☑	☐	☐
Square Meters	M2	☐	☑	☐
Deployed Days	DAYS	☑	☐	☐
[New]	[New]	☐	☐	☐

Figure 2-38. Metrics Window with New Row

When the grid row with [New] appears, type in the new Metric name. This will overwrite the word "[New]." The Abbreviation column automatically repeats the first 10 characters of the new entry. Use the Tab key to move to the Abbreviation column to change the Abbreviation, if desired. At this time, you can identify the areas of FOCIS where you expect to use this Metric by selecting one or more of the check boxes to the right of the new entry. By selecting these boxes, FOCIS automatically provides appropriate subsets of the overall list of Metrics to be used to complete data entry items such as cost factors. Although the usages are set now, these choices can be modified at any time if needed.

DELETE: If a Metric has not been used to enter any FOCIS data, it can be removed by clicking the **Delete** option. If the Metric has been used to enter any FOCIS data, the **Delete** option will be disabled (shows in light gray).

MOVE: You can change the order in which items are listed in either of two ways. One way to reorder the list is to use the shortcut menu and choose **Move** and one of the options (**Up**, **Down**, **First**, or **Last**.) The other way is to use the drag-and-drop capabilities of this grid. To use drag-and-drop in this window:

- Click on the Metric you want to move and hold the left mouse button down while dragging the selected row to its new position.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Select this menu item to see the Work Area and function for a particular Metric. Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of this manual on page 2-7.

PROPERTIES: Instructions for using this common function are found in the "Properties" section of this manual on page 2-7.

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Equipment Setup Data

Considerations in Developing the Equipment Setup Data

FOCIS maintains a list of Equipment Items to populate selection lists when adding Unit Equipment inventories and Equipment Use data, as well as several types of Equipment costs. It is adequate to think about this list initially in terms of the major Equipment Items that are in the inventory.

Choosing the Equipment Items to include is another of the decisions that will determine how hard or easy FOCIS is to use, and how useful FOCIS will be in defense resource planning. There are several question users can ask when considering whether to include an Equipment Item in the Equipment List. You should include an item in the Equipment List if the answer is "Yes" to any of the following questions:

- Does an Equipment Item have significant operating and maintenance costs? If it does, you will want to track its inventory and the costs associated with that Item.

- Is an Equipment Item critical to the successful completion of a Unit's mission? If it is, then knowing how much of that Equipment Item is controlled by each Unit authorized to have it can be an important factor in defense program planning and analysis.

- Is the purchase price of the Item significant and is there a possibility that this Equipment Item will be purchased during the program planning period?

The list of Equipment Items can become lengthy. Since FOCIS uses this information to populate lists of Equipment to choose from when adding Equipment to Units or adding costs for Equipment, it is helpful to divide this long list into smaller lists of similar types of Equipment. FOCIS provides this capability by allowing you to create and use Equipment Categories. As you develop an initial Equipment List, you should also create Equipment Categories to help FOCIS users find specific Equipment Items in the overall list.

The FOCIS Demo Database includes Equipment Categories, similar to those shown in Figure 2-39.

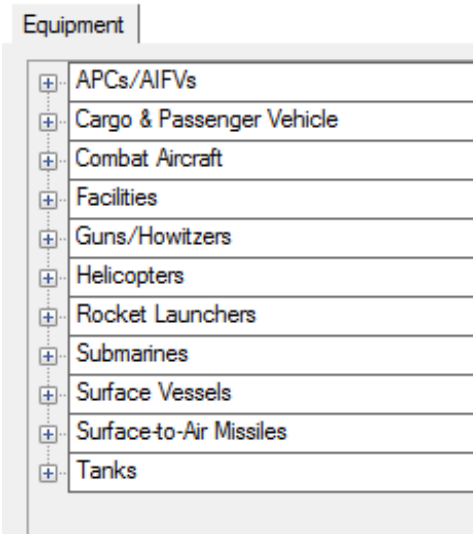


Figure 2-39. Sample Equipment Categories

You can add Equipment Categories to suit your needs. The FOCIS Demo Database also includes some sample Equipment Items, similar to those shown in Figure 2-40.

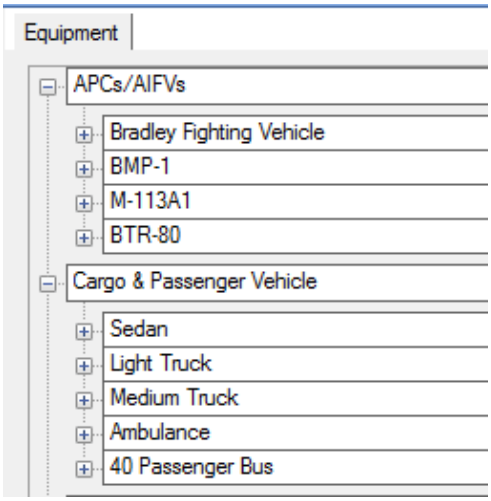


Figure 2-40. Sample Equipment Items

The level of detail to use when developing the Equipment List is an important consideration when there are many similar items.

A common example of this consideration is trucks. Every defense program must have hundreds of trucks, ranging in size and purpose from small utility vehicles to heavy duty trucks to haul supplies. Often there have been multiple suppliers of trucks over many years and it is common to find several different truck models in each general weight class. Many FOCIS users create an Equipment Item for “Light Trucks” with capacities below one ton and another for “Heavy Trucks” for those with capacities of one ton and higher. This ends up being a very useful simplification and does not undermine the usefulness of FOCIS for tracking inventories or estimating operating and support costs. The same idea may be useful for other kinds of Equipment.

Some countries also use FOCIS's capabilities related to Equipment (inventory documentation and cost estimating) to record real property and facility information. If this is the case, you will want to create at least one separate Equipment Category for facilities. (NOTE: Users can re-title the Equipment portion of Unit Data as Equipment & Facilities if they prefer). Within this category, users sometimes create specific facilities (Equipment Items) such as Barracks, Office Buildings, Hangars, Warehouses, etc. If they are going to associate costs with the operation and maintenance of facilities, they can also associate Metrics such as "Square Meters" or "Building Inhabitants" with these items and then create cost factors that depend on these values.

Using the Equipment Window

The Equipment window (shown in Figure 2-41) appears when you click **Equipment** in the **Unit Resources** menu in the Setup Data Work Area.

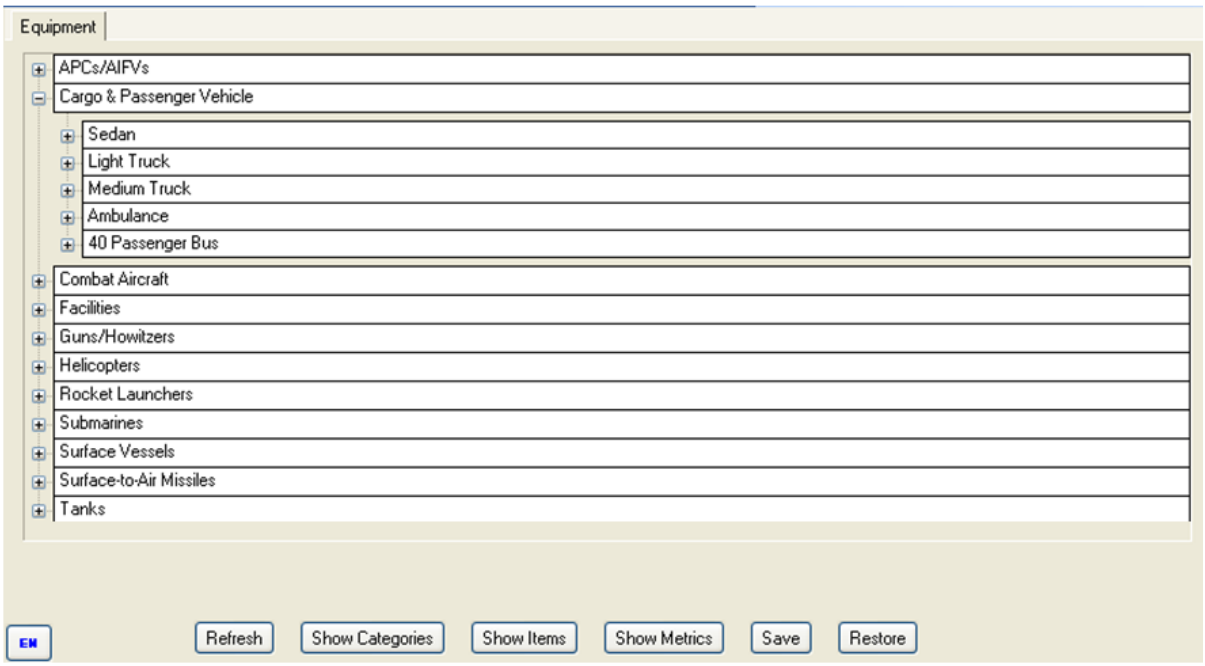


Figure 2-41. Equipment Window

Using this window, you can:

- Create the equipment information used throughout FOCIS.
    - Create and display Equipment Categories, such as the "APCs/IFVs" and "Cargo & Passenger Vehicles" shown in Figure 2-41.
    - Create and display Equipment Items such as the "BMP-1" and "BTR-80" shown in Figure 2-45 in the "APCs/IFVs" category.

Once an Equipment Item is created, users can assign any number of Metrics to each Equipment Item. Figure 2-45 shows two Metrics assigned to the Bradley Fighting Vehicle—"Kilometers Traveled" and "Rounds Fired."

- Add a Category, Item, or Metric
- Delete an entry
- Rearrange the order of the display

When you right-click on any Category or Equipment Item, the menu allows you to add a Category, Item, or Metric, delete an entry, or rearrange the order of the display. The **Show Uses** function is only available for Equipment Items.

The shortcut menus available in the Equipment window vary, depending on where in the window you are pointing when you click the right mouse button. They all start with the common functions shown in the left-most menu in Figure 2-42. For example, if you open the shortcut menu by right-clicking on a Category, the Metric options apply to all of the Equipment Items in that Category. If you open the shortcut menu by right-clicking on an Equipment Item, the Metric options apply only to that Equipment Item.

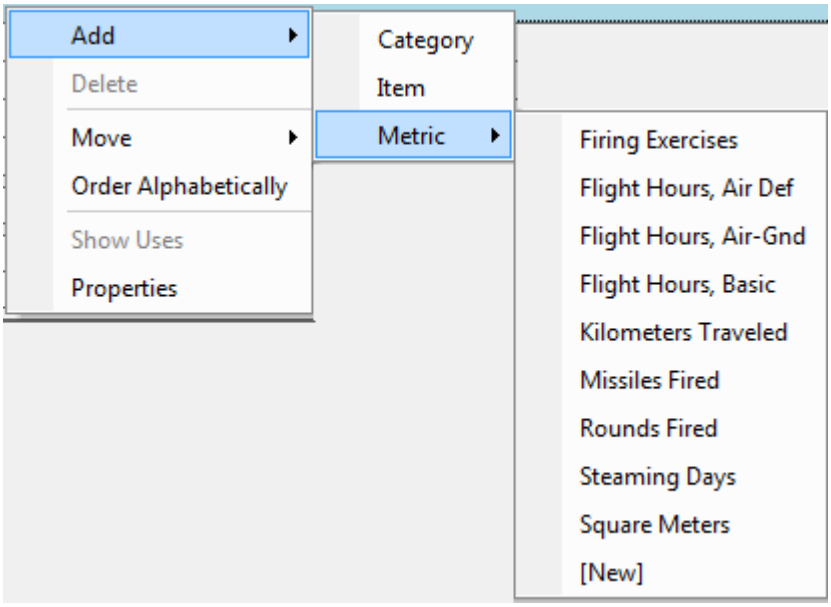


Figure 2-42. Equipment Shortcut Menu Options (Showing Add Metric Options)

ADD/CATEGORY: If you use this menu option, FOCIS adds a new Category row with the default name "[New] Category." (Figure 2-43) Edit this name by clicking on the text "[New] Category" and typing a Category name that does not duplicate an existing Category name.

Figure 2-43. New Equipment Category Row

ADD/ITEM: If you use this menu option, FOCIS adds a new Equipment Item row in the Category where the right-click occurred. The new row has the default name "[New]" (Figure 2-44). Edit this name by clicking on the text "[New]" and typing an Equipment Item name that does not duplicate an existing Equipment Item name.

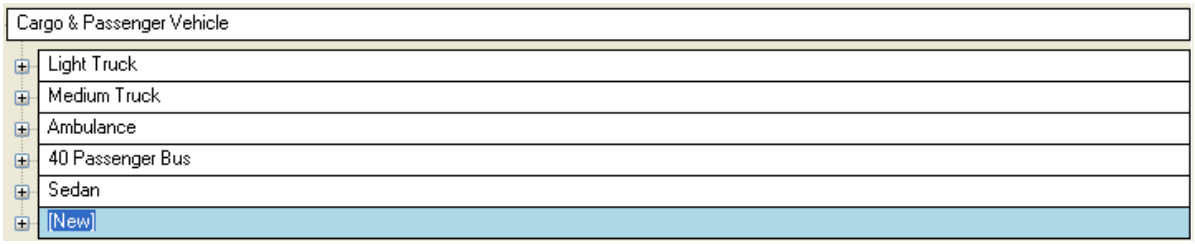


Figure 2-44. New Equipment Item Row

ADD/METRIC: If a user adds a Metric while pointing to the Category level of the window, that Metric is added to all of the Equipment Items in that category, as shown in Figure 2-45 through Figure 2-47.

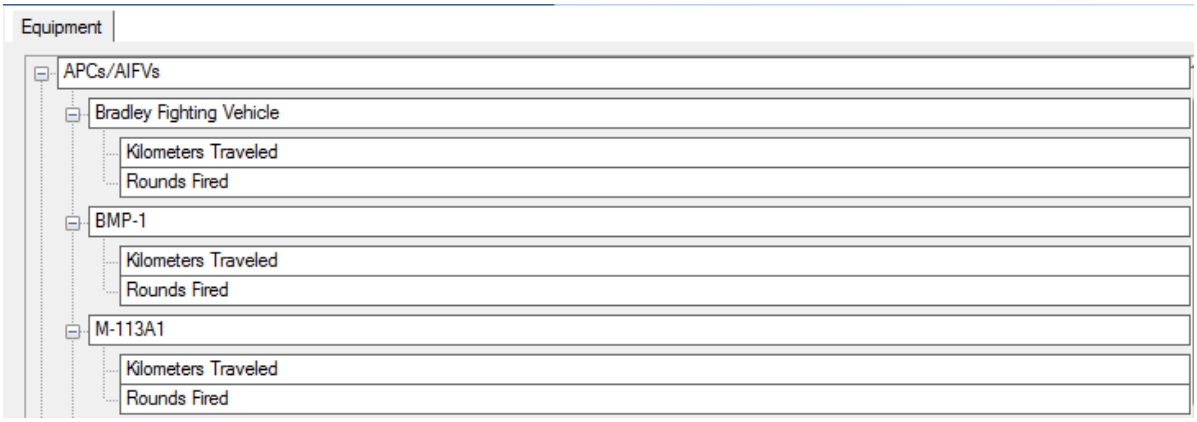


Figure 2-45. Sample Metrics Previously Assigned to Equipment Items

Figure 2-46 shows the shortcut menu sequence **Add → Metric → Missiles Fired**.

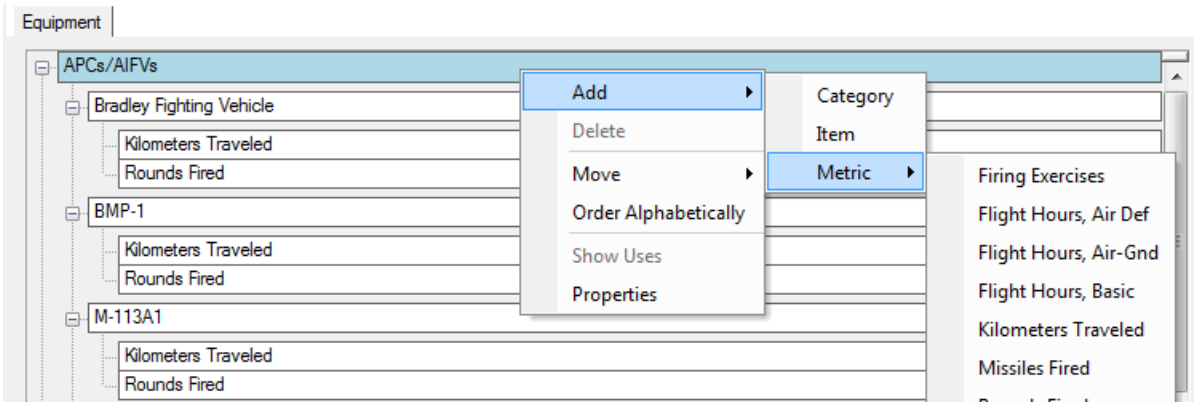


Figure 2-46. Shortcut Menu Sequence Selections for a Category

If “Missiles Fired” is selected, the display changes to look like Figure 2-47:

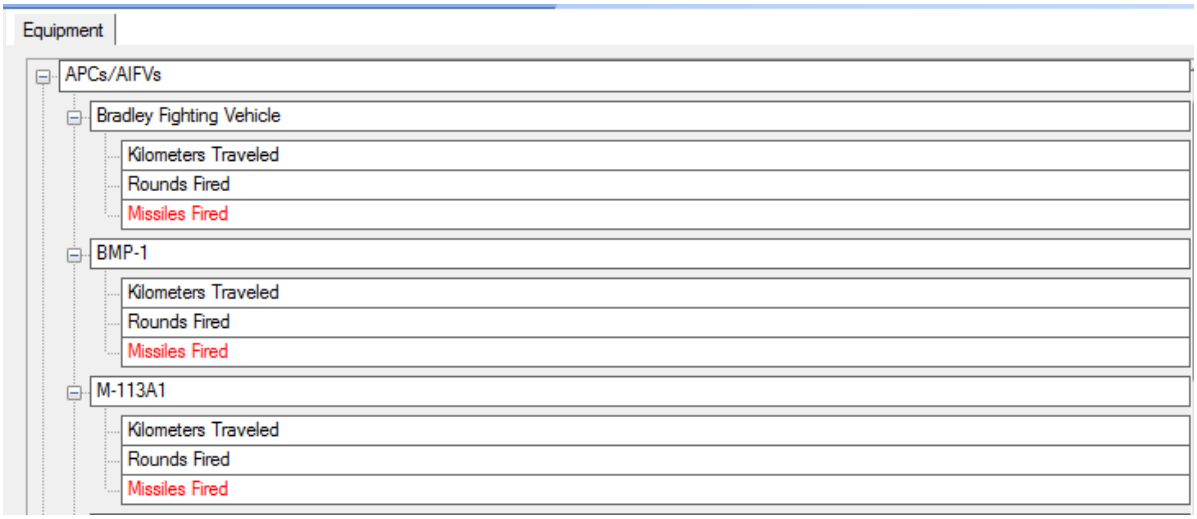


Figure 2-47. Metric Assigned to all Equipment Items in Category

If you need to assign a Metric that is not listed in the shortcut menu, click the entry listed as “[New]” and the Metrics window (shown in Figure 2-48) will open. (This window is identical to the Metrics window that opens by clicking **Metrics** in the Unit Resources menu.) When that window is open, you can add (create) a Metric or assign the usage property of an existing Metric to Equipment by selecting the check box in the Equipment column. Once this is done and saved, the new Metric appears on the shortcut menu when you right-click in the Equipment window (Figure 2-49).

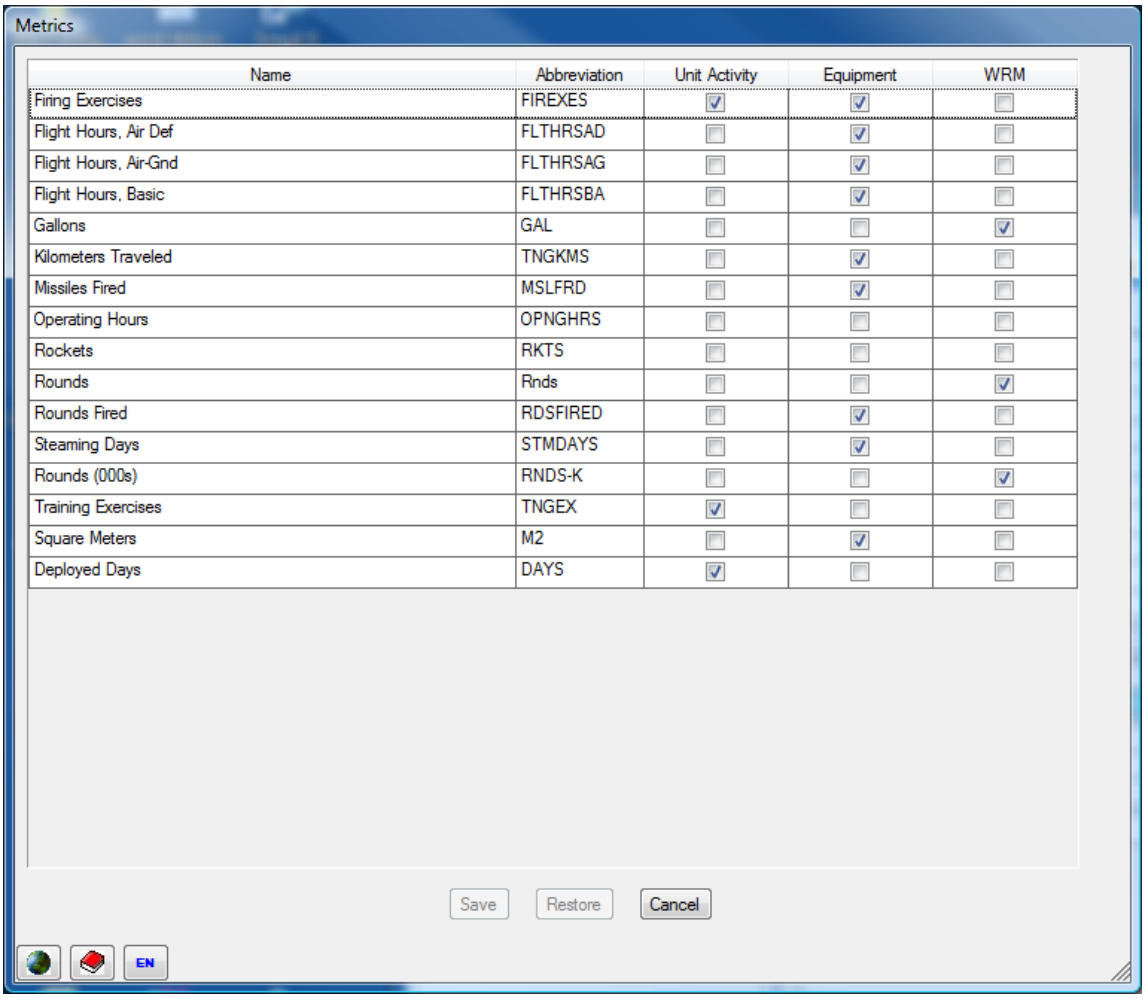


Figure 2-48. Metrics Window

If you open the shortcut menu by right-clicking on a Metric row on the Equipment window, the menu that opens (Figure 2-49) does not offer the option to reorder the Metrics because that order is set by the order of the Metrics in the Metrics window.

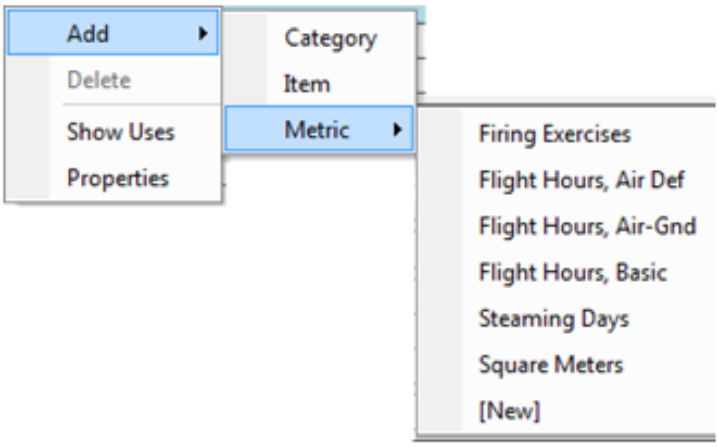


Figure 2-49. Shortcut Menu Sequence Selections for an Equipment Metric Row

DELETE: This menu option applies to an Equipment Category, Equipment Item, or Metric depending on where you are pointing when the right mouse button is clicked. It is only enabled if there are no uses of that entry—when applied at the Category level, there can be no Equipment Items assigned to the Category; when applied at the Equipment Item level, there can be no Metrics assigned to that Equipment Item. To delete an Equipment Category with assigned Equipment Items, either move the Items to another Category or delete them (if they are not being used). To delete an Equipment Item with assigned Metrics, first delete the Metrics.

MOVE: You can change the display order of Equipment Categories and Equipment Items by using either drag-and-drop or the **Move** options. To drag and drop an Equipment Category or Equipment Item, click and hold the left mouse button down while dragging the Category or Item. Equipment Items can be moved from one Category to another, but only by using drag-and-drop. Using the shortcut menu **Move** options (**Up**, **Down**, **First**, or **Last**) will cause the Category order to change or the Equipment Item order within a Category to change, depending on where you are pointing when the right mouse button is clicked.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Use this option to see the Work Area and Function of a particular Equipment Item. Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of the manual on page 2-7.

The [+] and [-] boxes to the left of Categories and Items allow you to expand or collapse a specific area of the display.

Use the three "**Show**" buttons (shown in Figure 2-50) at the bottom of the Equipment window to reset the depth of the display. **Show Categories** collapses all rows so that only Equipment Categories show. **Show Items** expands or collapses the rows so that only Equipment Categories and Items show. **Show Metrics** opens all levels of the display.

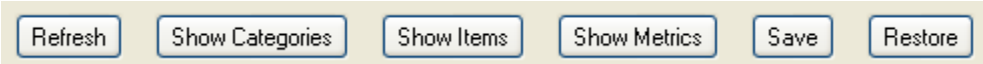


Figure 2-50. Buttons at Bottom of Screen

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Support Material Setup Data

Considerations in Developing the Support Material Setup Data

FOCIS maintains a list of Support Material Items that are used to populate selection lists when adding War Reserve Material (WRM) inventory data to Units or when entering WRM cost data. Support Material Items can also be used to describe some of the operating costs of Equipment and Units.

Choosing which Support Material Items to include is one of the steps that will determine how hard or easy FOCIS is to use, and how useful FOCIS will be in defense resource planning. There are several questions you can ask when considering whether to include a Support Material Item in the Support Material Items List.

You should include an item in the Support Material Items List if any of the following questions are answered with a **Yes**.

- When considering the addition of a Support Material Item that will be used to describe Unit war reserves, consider these questions before creating the Item:
    - Is the Item critical to the successful completion of a Unit's mission in a crisis?
    - Does the Item have significant procurement cost?
    - Is there a possibility that this Support Material Item will be purchased during the program planning period?
- When considering the addition of a Support Material Item that will be used to describe the operating costs of an Equipment Item or a Unit's general costs, consider these questions before creating the Item:
    - Is the use of this item normally described in terms of the quantity of that item used? (For example, the cost of fuel is often described based on the number of gallons used per kilometer or flying hour; the cost of ammunition is often based on the number of rounds fired.)
    - Does the item have a standard unit cost? (For example, a gallon of gasoline costs the same regardless of the Equipment that uses it; a 105 mm round costs the same regardless of the Equipment that fires it.)

The list of Support Material Items can become lengthy. Since FOCIS uses this information to populate lists of Support Material to choose from when adding WRM to Units, adding costs for Support Material procurement, or using a Support Material Item as the basis for an Equipment of Unit Operating cost factor, it is helpful to divide this long list into smaller lists of similar types of material. FOCIS provides this capability by allowing you to create and use Support Material Categories. As you develop an initial Support Material List, you should also create Support Material Categories to help FOCIS users find specific Support Material Items in the overall list. The FOCIS Demo Database provides default Support Material Categories, shown in Figure 2-51.

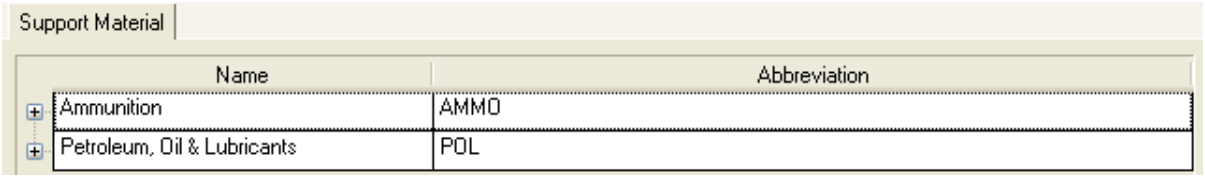


Figure 2-51. Support Material Default Categories

You can create other Support Material Categories to suit your needs.

The FOCIS Demo Database includes the default Support Material Items shown in Figure 2-52 as examples.

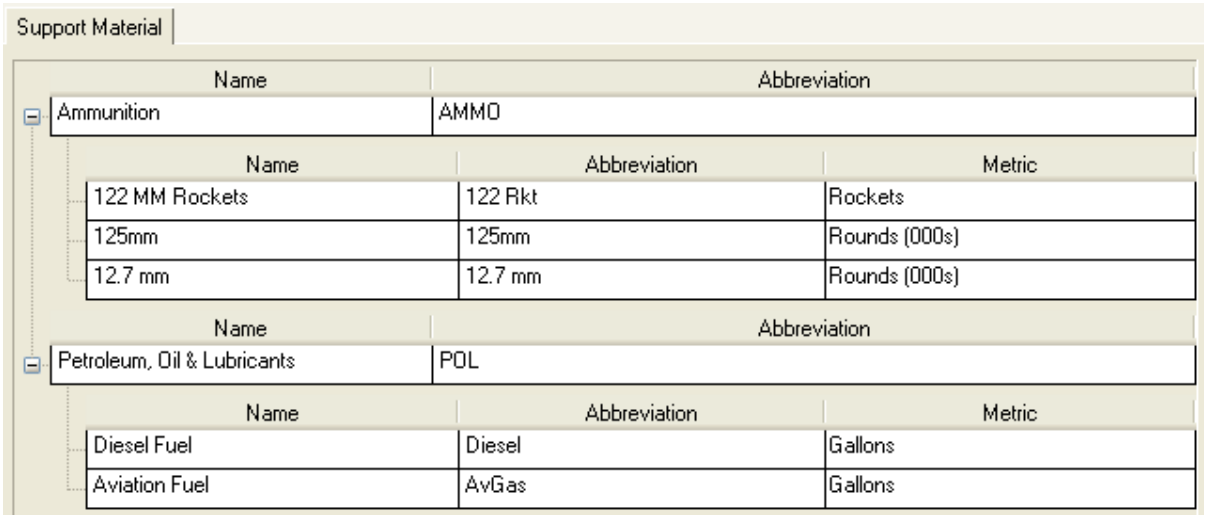


Figure 2-52. Sample Support Material Items

Using the Support Material Window

The Support Material window (shown in Figure 2-53) appears when you click **Support Material** in the Unit Resources menu in the Setup Data Work Area.

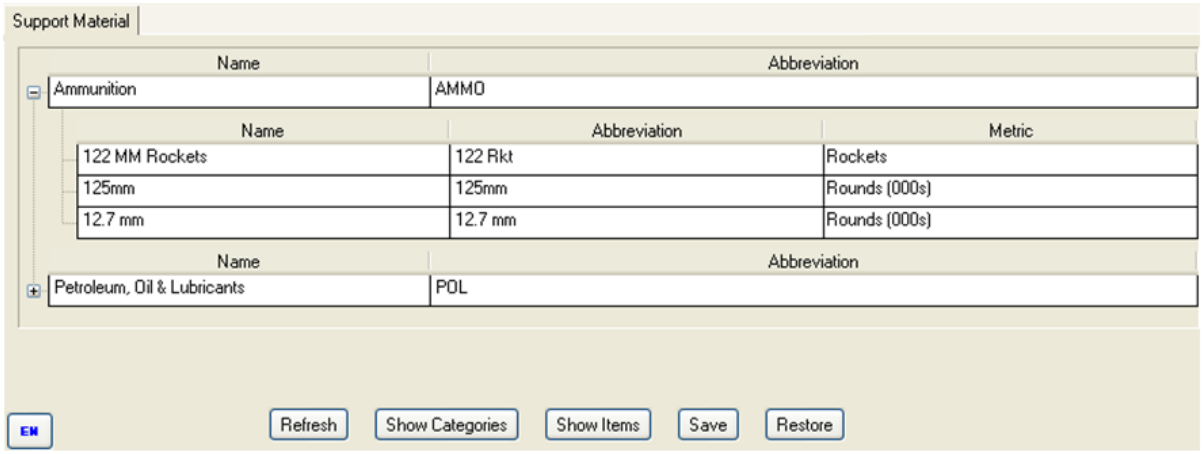


Figure 2-53. Support Material Window

The window is used to create and display Support Material Categories, such as the "Petroleum, Oil & Lubricants" and "Ammunition" Categories shown in Figure 2-53. The window also provides the ability to create and display Support Material Items such as "Diesel Fuel" and "Aviation Fuel" (see Figure 2-56).

When creating or editing a Support Material Item, you also create an Abbreviation and choose a single Metric to describe and scale quantities of the Item.

When you right-click on a Category or Support Material Item, the shortcut menu allows you to add a Category or Item, delete an entry, rearrange the order of the display, or to see the uses of an Item (Figure 2-54).

If you open the shortcut menu by right-clicking on a Category, the reordering (**Move**) options apply to the Category order. If you open the shortcut menu by right-clicking on a Support Material Item, the reordering options apply to the Support Material Items within a Category.

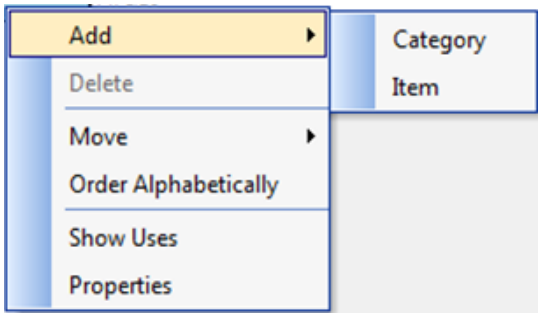


Figure 2-54. Support Material Shortcut Menu Options

ADD/CATEGORY: If you use this menu option, FOCIS adds a new Category row with the default name "[New] Category," as shown in Figure 2-55. Edit this name by clicking on the text "[New] Category" and typing a Category name that does not duplicate an existing Category name. By default, the Abbreviation is the first six characters of the Name, but this can be edited.

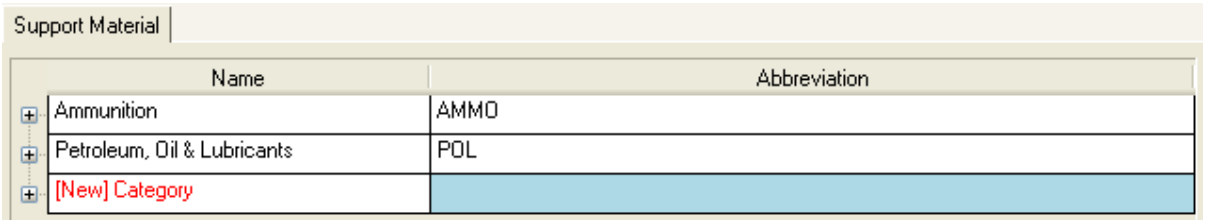


Figure 2-55. New Support Material Category Row

ADD/ITEM: If you use this menu option, FOCIS adds a new Support Material Item row in the Category where you are pointing when the right mouse button is clicked. The new row has the default name "[New]." (Figure 2-56) Edit this name by clicking on the text "[New]" and typing a Support Material Item Name that does not duplicate an existing Support Material Item Name.

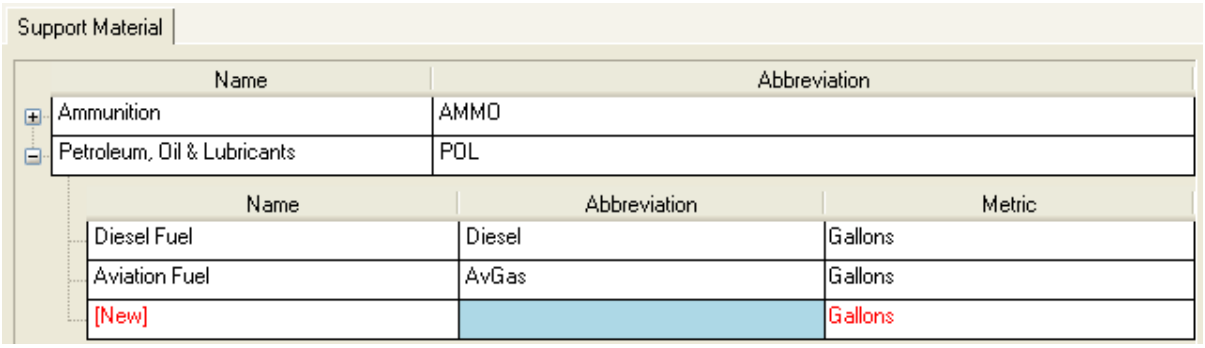


Figure 2-56. New Support Material Item Row

When adding a new Support Material Item, provide a unique abbreviation and choose the correct Metric. Placing the mouse pointer over the Metric field for the specific Item activates a drop-down list of available Metric names as shown in Figure 2-57.

Figure 2-57. Drop-Down List of Metric Names

DELETE: This menu option applies to a Support Material Category or Support Material Item, depending on where you are pointing when the right mouse button is clicked. It is only enabled if there are no uses of that entry—when applied at the Category level, there can be no Support Material Items assigned to the Category. To delete a Support Material Category with assigned Support Material Items, either move the Items to another Category or delete them (if they are not being used).

MOVE: You can change the display order of Support Material Categories and Support Material Items by using either drag-and-drop or the **Move** options on the shortcut menu. To drag and drop a Support Material Category or Support Material Item, click and hold the left mouse button down in the right half of the first column while dragging the Category or Item. Support Material Items can be moved from one Category to another, but only by using drag-and-drop. Using the shortcut menu **Move** options (**Up**, **Down**, **First**, or **Last**) will cause the Category order to change or the Support Material Item order within a Category to change, depending on where you are pointing when the right mouse button is clicked.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Use this option to view the Work Area and Function of a particular Support Material Item (Figure 2-58).

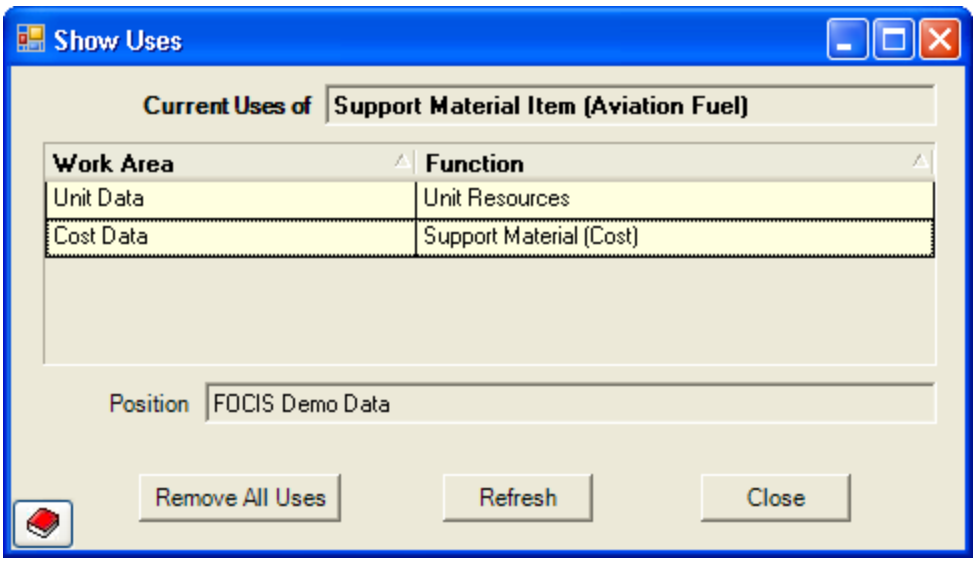


Figure 2-58. Show Uses Window

NOTE: Click the **Remove All Uses** button if desired, but only with extreme caution. If you select the **Remove All Uses** button, the message in Figure 2-59 appears.

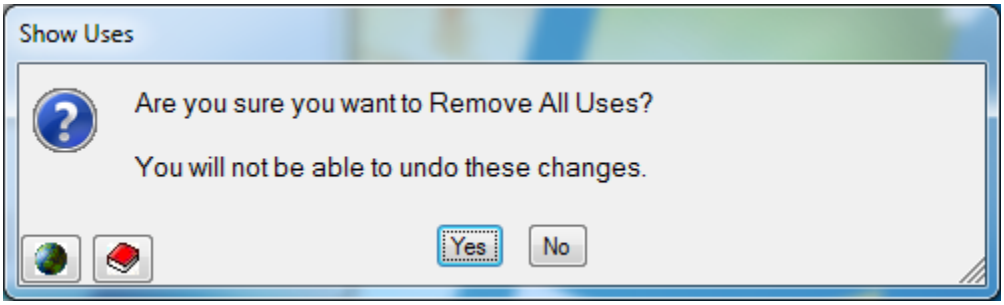


Figure 2-59. Remove All Uses Warning Message

The [+] and [-] boxes to the left of Categories allow you to expand or collapse a specific area of the display.

Use the two "**Show**" buttons (Figure 2-60) at the bottom of the Support Material window to reset the depth of the display. **Show Categories** collapses all rows so that only Support Material Categories show. **Show Items** expands the rows so that both Support Material Categories and Items show.

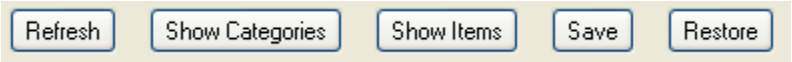


Figure 2-60. Buttons at Bottom of Support Material Window

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Cost

FOCIS is a *cost information system*. Therefore, one of the core functions of setting up FOCIS is tailoring the currencies and cost accounts to represent the defense organization's financial characteristics accurately. Part of this process also includes identifying budget expenses that are not tied directly to Unit operating expenses by creating a series of Budget Line Items to represent these types of costs. Figure 2-61 displays the Cost menu.

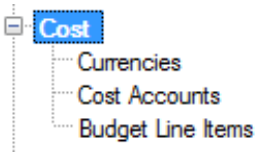


Figure 2-61. Cost Menu

Currencies Setup Data

Considerations in Developing the Currencies Setup Data

All FOCIS costs are identified with a Currency. If all defense expenditures are financed by a government budget or are handled in the country's Currency (even if some of those funds are used to make purchases in other Currencies), normally only a single Currency is entered in FOCIS. Users can think of the Setup item called Currencies as if each Currency were a separate Funding Source.

Multiple Currencies are used in the following types of circumstances:

- If the defense organization receives funding from more than one type of government authorization. For example, modernization programs may be paid for from a different fund than general operating expenses. In this case, two different Currencies can be created to track each funding source.

- If the country receives foreign credits, such as US FMA, and tracking spending from each source is important.

When creating the FOCIS Currency, it may be useful to "define" that Currency to represent thousands or millions to reduce Cost Data entry. For example, U.S. defense budgets are in the range of hundreds of billions of dollars. As a result, U.S. defense program planning is done in thousands of U.S. dollars. In FOCIS, the Currency would be set as "USD (000s)." Cost data entry can be performed using decimals in cases where an individual Cost factor needs to be expressed to the nearest dollar. This can be done even when the nominal FOCIS Currency is USD (000s).

Using the Currencies Window

The Currencies window (shown in Figure 2-62) appears when you click **Currencies** in the Cost menu in the Setup Data Work Area. FOCIS provides the displayed default entry.

Figure 2-62. Currencies Window

Using this window, you can:

- Add a new Currency
- Delete one of the Currencies if it has not been used (and if it is not the only Currency)
- Reorder the list of Currencies
- See where the Currency is used
- Identify the person who made the last change to an entry

Multiple Currencies can exist, but there must always be at least one. You cannot remove the last remaining Currency.

Right-click anywhere in the grid to display the shortcut menu containing the **Add**, **Delete**, **Move**, **Order Alphabetically**, **Show Uses**, and **Properties** options. The shortcut menu options are shown in Figure 2-63.

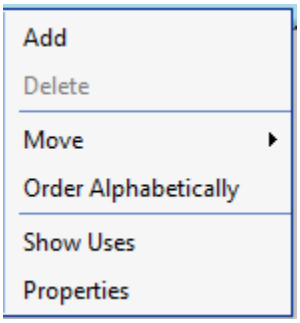


Figure 2-63. Currencies Shortcut Menu Options

ADD: To add a new Currency, click **Add** with the left mouse button. A new row is added to the display with the default name "[New]," as shown in Figure 2-64. Edit this name by clicking on the text "[New]" and typing a Currency Name and Abbreviation that do not duplicate an existing Name or Abbreviation. By default, the Abbreviation is the first six characters of the Name. The Abbreviation can be edited if desired.

Figure 2-64. Currencies Window with New Row

NOTE: When a user adds a new Currency, a new set of default Inflation rates is created for that new Currency with rates set to match those of the Currency currently listed at the top of the list. When you delete a Currency, all of the Inflation rates created under that Currency are deleted. Figure 2-65 shows a portion of the Inflation window accessible through the Cost Data Work Area.

Cost Account	Rate Type	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	20
Default	Annual %	10.00	10.00	9.00	8.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.(
	Composite %	70.05	77.05	83.98	90.70	95.24	100.00	105.00	110.25	115.76	121.55	127.63	134.(
1001.1 Personnel	Annual %	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.(
	Composite %	56.74	63.55	71.18	79.72	89.29	100.00	112.00	125.44	140.49	157.35	176.23	197.3

Cost Account	Rate Type	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	20
Default	Annual %	10.00	10.00	9.00	8.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.(
	Composite %	70.05	77.05	83.98	90.70	95.24	100.00	105.00	110.25	115.76	121.55	127.63	134.(

Figure 2-65. Inflation Rates Window (Cost Data Work Area)

DELETE: **Delete** is only enabled for a Currency if there are no uses of that Currency and it is not the only Currency in the list.

MOVE: The Currency that appears at the top of the list is the Currency that FOCIS will use as the default Currency when adding new cost data. You can change the display order of Currencies by using either drag-and-drop or the **Move** options. To drag and drop a Currency, click and hold the left mouse button down while dragging the Currency. Using the shortcut menu **Move** options (**Up**, **Down**, **First**, or **Last**) will also cause the Currency order to change.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of the manual on page 2-7. Use this option to see the Work Area and Function for a particular Currency (Figure 2-66).

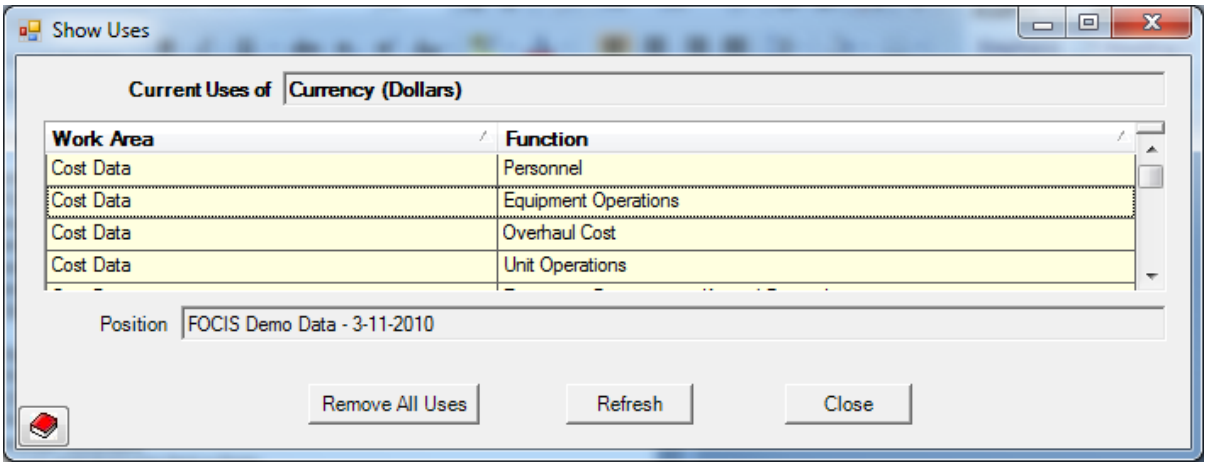


Figure 2-66. Show Uses Window

NOTE: Click the **Remove All Uses** button if desired, but only with extreme caution. If you select the **Remove All Uses** button, the message in Figure 2-67 appears.

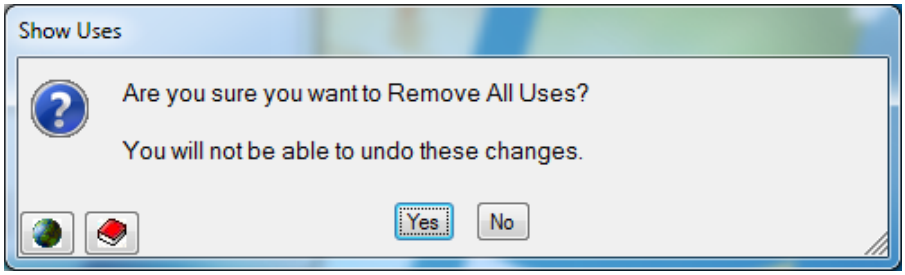


Figure 2-67. Remove All Uses Warning Message

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Cost Accounts Setup Data

Considerations in Developing the Cost Accounts Setup Data

The following statement is basic to FOCIS:

Every cost entered in FOCIS is associated with a cost account.

For example, cost accounts generally exist for Military Salaries, Civilian Salaries, and Fuel. When entering salaries of military personnel, they are recorded with reference to the Military Salaries cost account. When entering salaries of civilian personnel, they are recorded with reference to the Civilian Salaries cost account. When entering fuel consumption of a tank, the costs are recorded with reference to the Fuel cost account.

Using this approach, all of the many uses of fuel for all types of equipment and in all units can be gathered as an estimate of total fuel costs. Likewise, all Military and Civilian Salary costs can be gathered from all units into a total for these accounts.

The basic building blocks of any defense accounting system are its budget accounts. In many countries, a list of the entire set of budget accounts runs into the hundreds of separate entries. Using this much detail to record costs in FOCIS would make the collecting and entry of costs very time consuming.

FOCIS uses the budget structure as a starting point but we encourage you to use a simplified form of the total budget structure by choosing accounts from the second or third level depending on the detail required and by exploring opportunities to use higher-level entries.

It is important that FOCIS cost accounts clearly map to the country's budget structure so that FOCIS cost results can be used as control totals for well-defined groups of budget accounts.

Every FOCIS cost account is identified with a Name, a short name or Abbreviation, and an Account Number. The Account Number should directly match the corresponding portion of your country's defense budget.

A typical situation is the existence of a budget structure that includes the following types of entries:

2.04 Rent and Utilities

2.04.01 Rent

2.04.01.01 Rent – Office Space

2.04.01.02 Rent – Manufacturing Space

2.04.01.03 Rent – Real Property

2.04.02 Utilities

2.04.02.01 Electricity

2.04.02.02 Heat

2.04.02.03 Water

2.04.02.04 Waste Disposal

Looking at these accounts, you can choose to create:

- Seven FOCIS cost accounts, one for each of the lowest level entries
- Two FOCIS cost accounts, 2.04.01 Rent and 2.04.02 Utilities
- One FOCIS cost account, 2.04 Rent and Utilities

In most situations, creating one FOCIS cost account for the above is adequate. However, if there is a strong feeling that Rent is a fixed annual cost but Utilities are best modeled as costs that depend on the number of Personnel assigned to the Unit, then creating two FOCIS cost accounts would be a good approach. This allows the development of a cost model that better matches how budgeted amounts are supposed to behave.

A special situation that occurs with cost accounts is worth discussing briefly. In some instances, budget accounts fund a broad range of expenses. For example, one national budget account paid for a very wide range of purchases—from medicines to ammunition. All of these many diverse items were in one numbered budget account, 1.02. To successfully model defense costs in this country, multiple FOCIS cost accounts were created using the account number 1.02. One of the accounts was 1.02 Medicine, another was 1.02 Repair Parts, and still another was 1.02 Ammunition. This allowed the collection of cost data throughout the Ministry of Defense that matched local practices. Even with this breakout, FOCIS reports showed the total cost for budget account 1.02, while also providing useful justification detail within that total.

In another country, one budget account existed for aircraft spare parts. However, the internal management of cost information separated this single account into parts for airframes, parts for engines, and parts for avionics. According to the maintenance experts, the parts related to fixing the airframe were planned on the basis of the number of aircraft in the inventory (FOCIS calls these fixed annual costs), but avionics and engine spare parts were thought to depend on the number of flying hours of the aircraft fleet (FOCIS calls these variable with activity costs). By creating three separate FOCIS cost accounts, the country was able to model the costs of aircraft use more accurately.

FOCIS allows you to create separate inflation rates based on cost accounts, and this can influence how cost accounts are created. Annual Inflation for pay is identical to the annual pay raise percentages. If pay raises are the same for all Personnel Types, then it is reasonable to create a single cost account for salaries. However if pay raises are sometimes different for military and civilian personnel, separate cost accounts should be created for each salary account so that separate Annual Inflation rates can be created to represent the different pay raises. Likewise, if sometimes officers receive a different pay raise from enlisted soldiers, it may be a good idea to create separate cost accounts for each. The same concept may apply to other allowances such as uniforms or food if annual increases differ for different types of personnel.

Deciding on the number and content of FOCIS cost accounts requires careful thought, and it must be done before you collect FOCIS cost data, because data providers are asked to define all costs in terms of these cost accounts.

FOCIS provides sample cost accounts in the demo database.

Using the Cost Account Window

The Cost Account window (shown in Figure 2-68) appears when you click **Cost Accounts** in the Cost menu in the Setup Data Work Area.

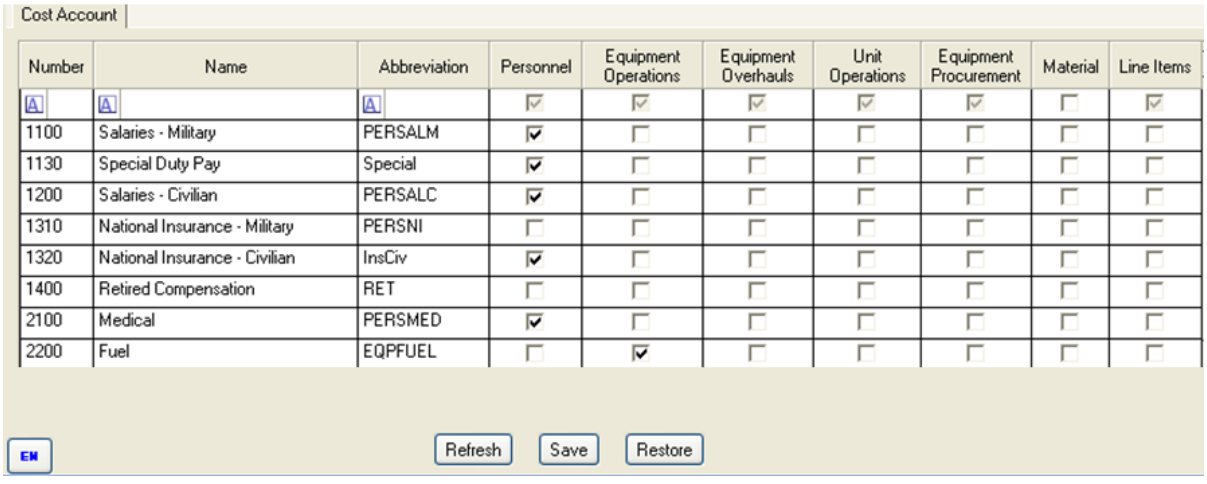


Figure 2-68. Cost Account Window

The display shows each cost account and the usages that are expected.

The Usage headers can be revised in both the Primary and Alternate label versions. To do this, click on the Translations icon in the toolbar at the top of the screen. This opens the Translation window, shown in Figure 2-69. Click on the Terminology tab and choose the "Cost Data – Account Types" Category using the drop-down selector. You can then edit the Primary and Alternate label terms to fit your preferences.

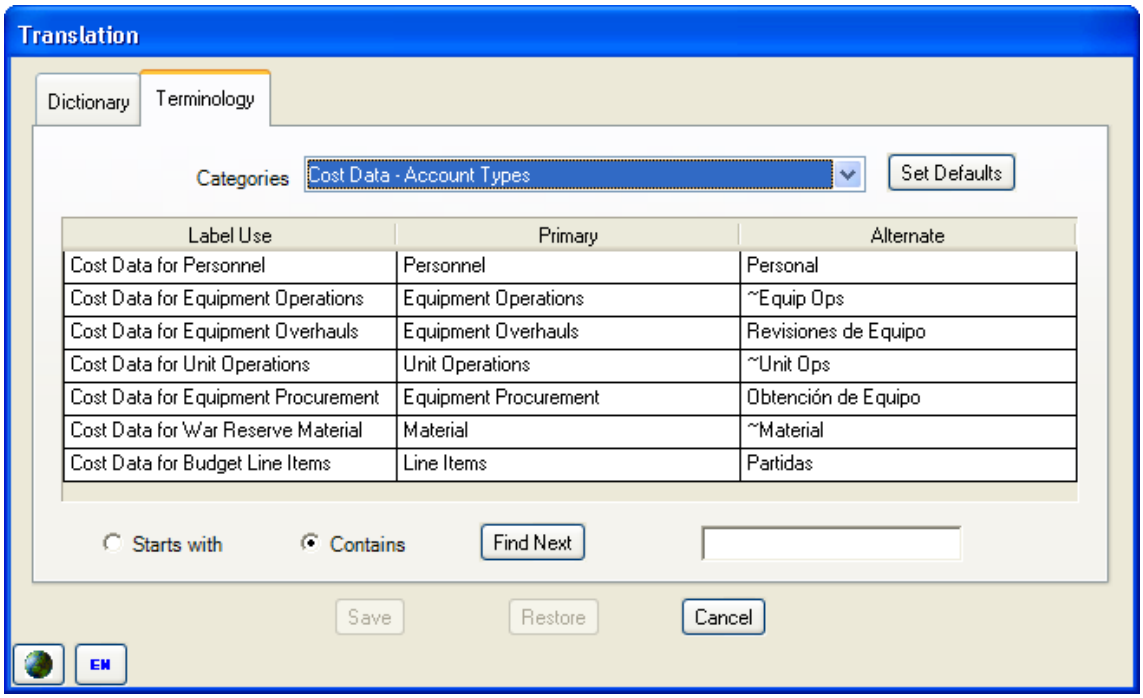


Figure 2-69. Translation Window

Using the Cost Account window, you can:

- Order cost accounts by number
- Add a new cost account
- Delete a cost account
- Reorder the list of cost accounts
- See where the cost account is used
- Identify the person who made the last change to an entry

Right-click anywhere in the grid to display the shortcut menu containing the **Add**, **Delete**, **Move**, **Order by Number**, **Order Alphabetically**, **Show Uses**, and **Properties** options. The shortcut menu options are shown in Figure 2-70.

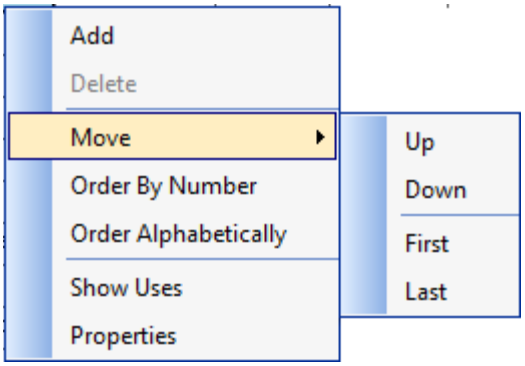


Figure 2-70. Cost Accounts Shortcut Menu Options

ADD: To add a new cost account, click **Add** with the left mouse button. A new row is added to the display with the default name "[New]," as shown in Figure 2-71. Edit this name by clicking on the text "[New]" and typing a Cost Account Name and Abbreviation that do not duplicate an existing Name or Abbreviation. There is no automatic Abbreviation created. A cost account number should also be added; but, unlike other entries, the cost account number can duplicate an existing entry's number.

Cost Account

Number	Name	Abbreviation	Personnel	Equipment Operations	Equipment Overhauls	Unit Operations	Equipment Procurement	Material	Line Items
			☑	☑	☑	☑	☑	☐	☑
3490	Procurement - Initial Spares	PROC INI	☐	☐	☐	☐	☐	☐	☐
0	[New]	[New]	☐	☐	☐	☐	☐	☐	☐

Figure 2-71. Cost Account Window with New Row

After entering the Name, Abbreviation, and Number, set the Usages to the expected uses of the new cost account.

DELETE: **Delete** is only enabled for a cost account if the cost account has not been used to enter cost data.

MOVE: Cost accounts can only be moved using the shortcut menu **Move** options (**Up**, **Down**, **First**, or **Last**). You cannot drag and drop a cost account to change its order.

ORDER BY NUMBER: Use this option to order the list by the number entered in the first column.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Instructions for using this common function are found in the "Finding and Removing All Uses of a Setup Item" section of the manual on page 2-7. Use this option to see the Work Area and Function for a particular cost account (Figure 2-72).

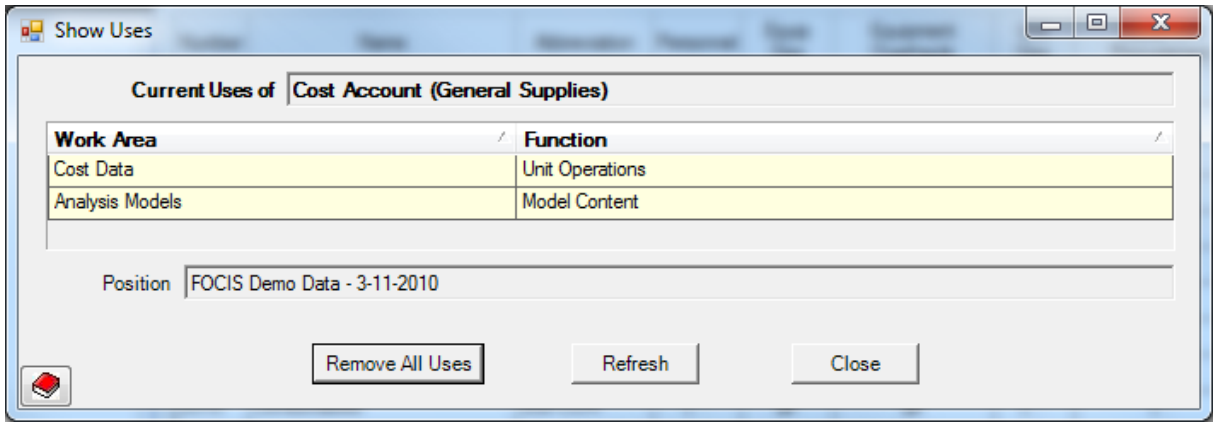


Figure 2-72. Show Uses Window

NOTE: Click the **Remove All Uses** button if desired, but only with extreme caution. If you select the **Remove All Uses** button, the message in Figure 2-73 appears.

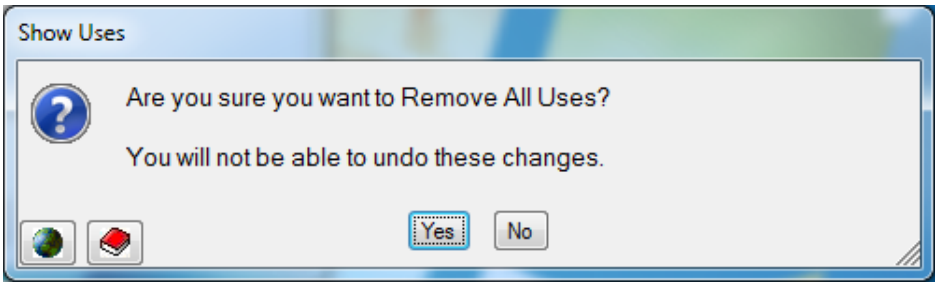


Figure 2-73. Remove All Uses Warning Message

Revising Account Usage: At any point, you can revise the Usage associated with a Cost account. Changing a Usage of a cost account that has been used will not affect cost data already entered. For example, if Military Salaries had already been used to enter salary data and the "Pers" Usage check was removed, there would be no effect on the previously entered costs or on the cost calculation.

Usages are a method to allow FOCIS to provide a "best guess" set of defaults as cost data are entered. If you do not set a Usage and then use a cost account to enter Personnel costs, FOCIS will set the "Pers" Usage to **True** (the check box will be selected) automatically so it will appear when adding new Personnel costs in the future.

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Budget Line Items Setup Data

Considerations in Developing the Budget Line Items Setup Data

FOCIS allows you to model defense costs in a variety of ways. The most desirable cost tools are those that relate a budget account's costs to some quantitative characteristic of the force:

Units and their activities, Unit Manpower, Unit Equipment and its uses, and Support Material stockpiles. FOCIS also provides tools to record Equipment procurement costs. However, in every defense budget, there are expenses that cannot easily be related to any of these characteristics, and FOCIS allows you to enter these costs as Budget Line Item costs. Some typical examples are Research and Development or Construction projects. There are also typically some expenses that are funded without regard to any force characteristics. For example, these may include Representation Funds, Doctrine Development, Special Studies, and even Financial Adjustments.

FOCIS allows users to create Budget Line Item Categories and to add specific Budget Line Items within each Category. Two decisions must be made when creating a Budget Line Item:

- What organization is the responsible budget overseer for this Line Item?
- Should the costs in this Line Item automatically be copied into new years when years are added to the database?

FOCIS tracks every expense to a Unit. To the extent possible, FOCIS should be used to track expenses to the Units that benefit from the expense, if different from the Unit that actually spends the money. When an expense benefits multiple Units, the first common parent Unit is the preferred Unit to associate with a Budget Line Item. If there is no better choice, Budget Line Items can be associated with the Service or Agency headquarters.

Using the Budget Line Items Window

The Budget Line Items window (shown in Figure 2-74) appears when you click **Budget Line Items** in the Cost menu in the Setup Data Work Area.

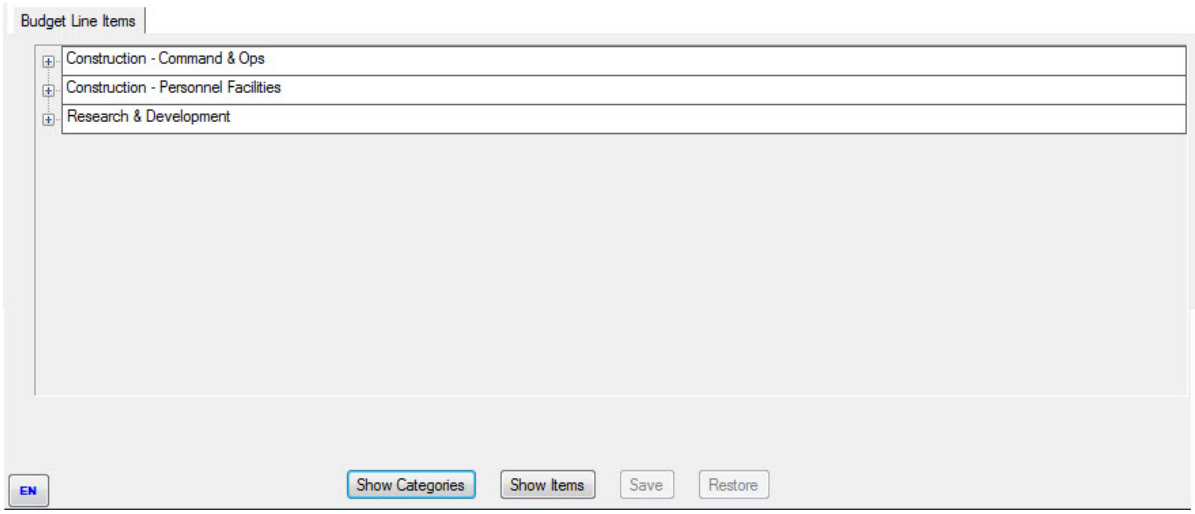


Figure 2-74. Budget Line Items Window

The Budget Line Items window allows you to create and display Budget Line Item Categories, such as the Construction – Command & Ops and Construction – Personnel

Facilities Categories shown in Figure 2-74. The window also provides the ability to create and display Budget Line Items such as **Command/Admin Facilities - Army** and **Communications Facilities – Army** and to group them into Categories.

When creating Budget Line Items, you should identify the Unit that has primary budget responsibility for the item or the Unit that will benefit from the funding. Each Item is also marked to either automatically extend costs when new years are added to the database or not to extend the costs. The topic of adding years to the database is discussed in more detail in Chapter 3 of the Manual.

Right-clicking on a Category or Budget Line Item opens a shortcut menu that allows users to add a Category or Budget Line Item (depending on where you are pointing when you click the right mouse button), reorder the display, show uses of a Budget Line Item, and view the Item's Properties. If the right-click occurs on a Budget Line Item (as opposed to a Category), the **Select Unit** option is also enabled. When you choose **Select Unit**, users can revise the Unit associated with the Budget Line Item. The shortcut menu options are shown in Figure 2-75.

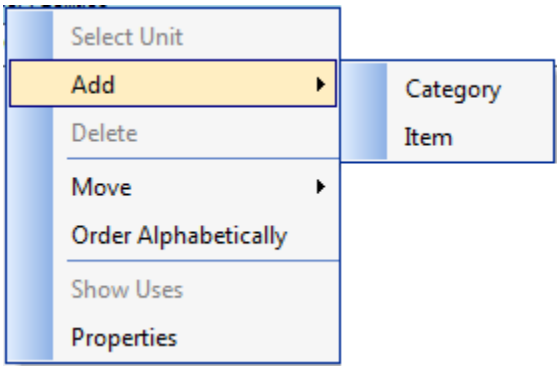


Figure 2-75. Budget Line Items Shortcut Menu Options

If the right-click occurs on a Category, the reordering options apply to the Category order. If the right-click occurs on a Budget Line Item, the reordering applies to the Budget Line Items within a Category.

ADD/CATEGORY: If you use this menu option, FOCIS adds a new Category row with the default name "[New] Category," as shown in Figure 2-76. Edit this name by clicking on the text "[New] Category" and typing a Category name that does not duplicate an existing Budget Line Items Category name.

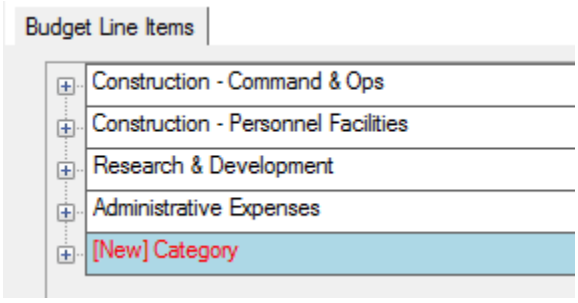


Figure 2-76. New Budget Line Items Category Row

ADD/ITEM: If you use this menu option, FOCIS opens the Add Budget Line Item window (Figure 2-77), where you enter the new Budget Line Item Name, set the Auto Extend property, and choose the sponsoring Unit.

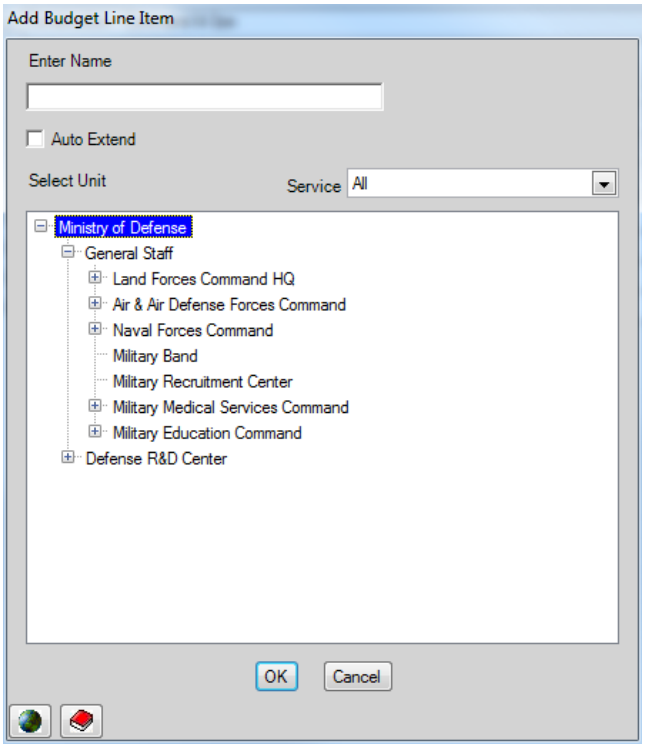


Figure 2-77. Add Budget Line Item Window

DELETE: This menu option applies to a Budget Line Items Category or individual Budget Line Item, depending on where you are pointing when you click the right mouse button. It is only enabled if there are no uses of that entry—when applied at the Category level, there can be no Budget Line Items assigned to the Category. To delete a Budget Line Items Category with assigned Budget Line Items, either move the Items to another Category or delete them (if they are not being used).

MOVE: You can change the display order of Budget Line Items Categories and Budget Line Items by using either drag-and-drop or the **Move** options. To drag and drop a Budget Line Items Category or Budget Line Item, click and hold the left mouse button down while dragging the Category or Item. Budget Line Items can be moved from one Category to another, but only by using drag-and-drop. Using the shortcut menu **Move** options (**Up**, **Down**, **First**, or **Last**) will cause the Category order to change or the Budget Line Item order within a Category to change, depending on where you are pointing when you click the right mouse button.

ORDER ALPHABETICALLY: Use this option if desired.

SHOW USES: Use this option to view the Work Area and Function of a particular Budget Line Item (Figure 2-78). This function is not available for Budget Line Item Categories.

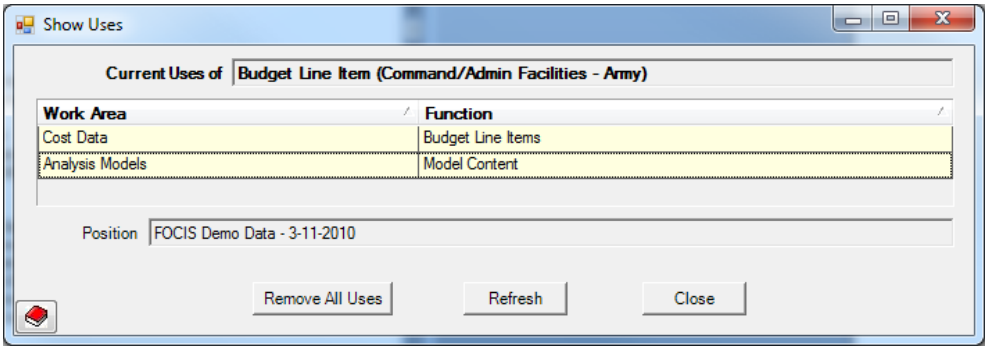


Figure 2-78. Show Uses Window

NOTE: Click the **Remove All Uses** button if desired, but only with extreme caution. If you select the **Remove All Uses** button, the message in Figure 2-79 appears.

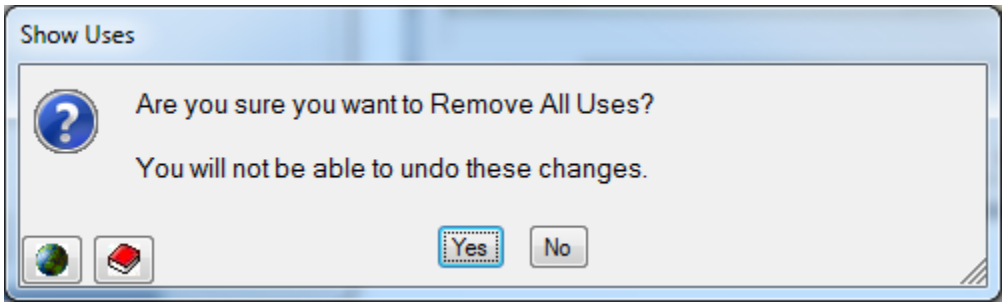


Figure 2-79. Remove All Uses Warning Message

The [+] and [-] boxes to the left of Categories allow you to expand or collapse a specific area of the display.

Use the two "**Show**" buttons (Figure 2-80) at the bottom of the Budget Line Items window to reset the depth of the display. **Show Categories** collapses all rows so that only Budget Line Items Categories show. **Show Items** expands the rows so that both Budget Line Items Categories and Items show.

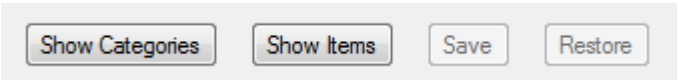


Figure 2-80. Buttons at Bottom of Budget Line Items Window

When the entries are set up the way you want them, click the **Save** button. If you decide before saving not to make the changes, click the **Restore** button.

Chapter 3.
Unit Organization Structure Data

FOCIS users collect, enter, and modify several types of data while using FOCIS:

- **Setup data:** Information that describes the basic characteristics of country's defense program in its own terms and in a manner consistent with the data that are available
- **Unit Organization Structure data:** Information on the military Units and civilian organizations that comprise the total defense program.
- **Unit Resources data:** Information on the Personnel and key Material Resources in each Unit and organization.
- **Cost data:** Information on the costs of purchasing, using, and maintaining the Personnel and Material Resources of defense

This chapter of the FOCIS user's manual provides guidelines and recommendations that you should consider in modeling the defense organization structure and provides detailed instructions on how to use the FOCIS windows that support this type of data.

The chapter starts with an overview of the Unit Data Work Area, where the Unit Organization Structure and Unit Resources Data are entered and modified.

Following this overview are detailed instructions for using each of the following functions within FOCIS relating to the Organization Structure:

- Adding new Units
- Editing Unit data
- Copying Units
- Adding and deleting years
- Reordering Units
- Resubordinating Units
- Displaying and exporting the multi-year structure
- Finding a Unit

Information about entering and editing Unit Resources Data is provided in Chapter 4 of this manual.

Introduction to the Unit Data Work Area

The Unit Data Work Area includes two types of data:

- The administrative[1] organization structure of defense
- Unit Resources (i.e., Manpower, Equipment Inventories and Equipment Use, Unit Activity, and War Reserves)

As seen in Figure 3-1, Organization Structure data are shown on the left and Unit Resource data are shown on the right. Whenever a Unit is selected from the Organization Structure, its Resource information is shown on the right, where it can be viewed, modified, and, if desired, exported to a Microsoft Excel spreadsheet.

Figure 3-1 shows the Unit Organization of the FOCIS Demo Database on the left. The 1st Corps HQ Unit has been selected, and its Resources are shown on the right.

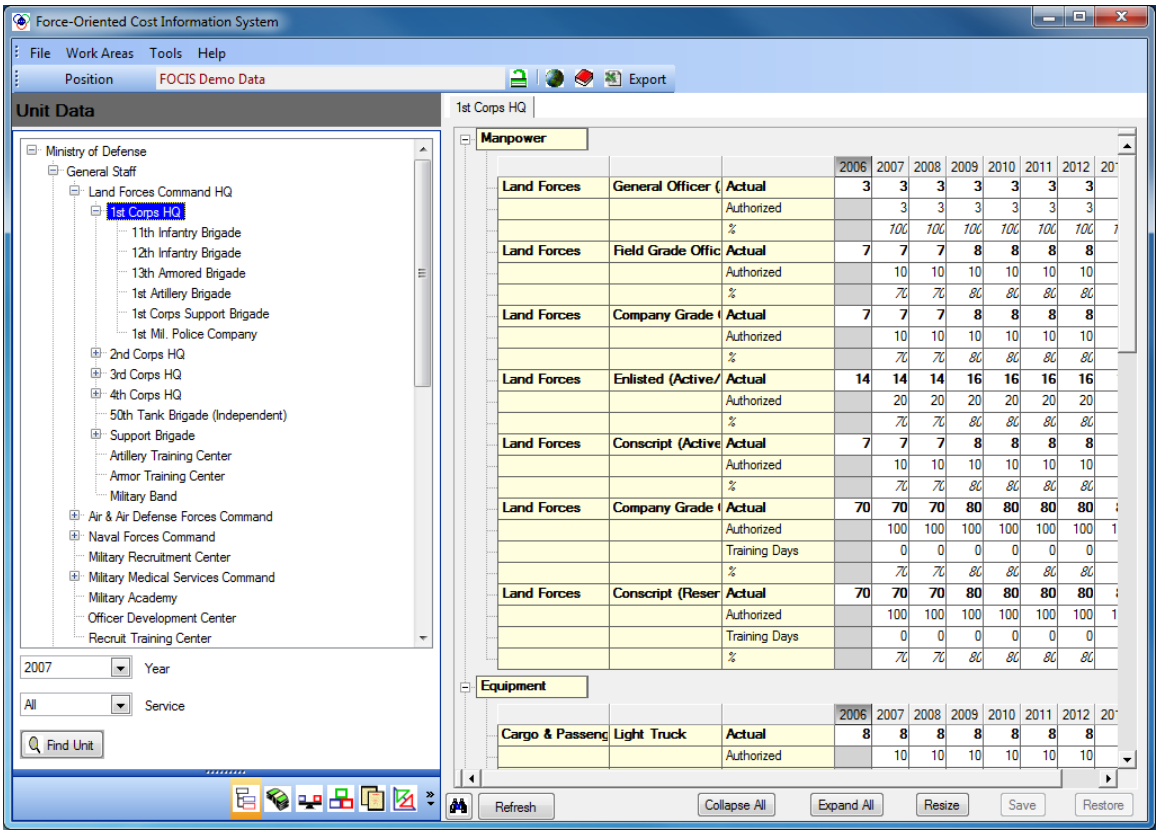


Figure 3-1. Unit Data Work Area Window

[1] The administrative organization describes the superior and subordinate relationship between Units for administrative and budgeting purposes. The relationship of Units for the purpose of conducting military operations may be considerably different. It is possible to represent the operational command relationships using FOCIS models described in Chapter 6.

NOTE: All organizations within the defense establishment, whether military or civilian, are referred to as “Units” in FOCIS.

Introduction to the Unit Organization Display

FOCIS organizes Unit Data using a hierarchical (multi-level) Organization Structure at a level of detail that supports decision-making. Unit Structure data can be modified year-by-year to show changes in Unit Organization. Each Unit has the following descriptive characteristics that can be changed in any year:

- Name
- Parent (superior) unit
- Unit identification number (optional)
- Service affiliation
- Command level

FOCIS enforces the following rules in the creation and modification of Unit organization data:

- A Unit can only exist in years that its superior Unit exists
- Units exist for a consecutive series of years (there can be no gap in the year range a Unit exists)
- The command level of any Unit must be lower than that of its superior Unit (any command level lower than its parent is acceptable)

FOCIS displays the Unit Organization structure in a tree format similar to the one shown in Figure 3-2.

Because the Unit Organization tree can vary from year to year, you must select the year to use as the basis for the Organization display. The year is selected using the drop-down arrow in the Year field below the Unit structure.

The Unit Structure display can also be limited to a single Service using the drop-down arrow in the Service field below the Year field.

Sometimes finding a specific Unit within a complex organization is challenging. To help users who may not be familiar with the total Unit structure, FOCIS provides a **Find Unit** function that allows you to find a Unit by name, by the Equipment it possesses or by the type of War Reserve Material it possesses. The **Find Unit** function supports all of these plus other methods and is described in the "Finding a Unit" section of this chapter, on page 3-18.

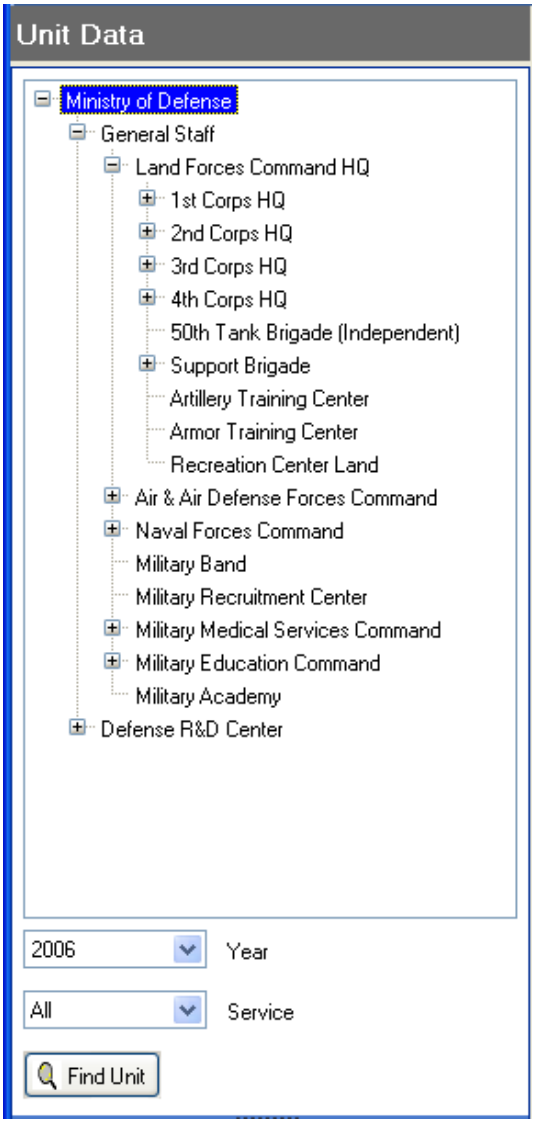


Figure 3-2. Unit Data Menu Options

Using the Unit Organization Display

The Unit Organization display is used to create and modify the Organization structure. By adding years to, and removing years from, the top Unit in the structure, the time span of the entire Model is changed. Adding years to the top Unit adds years to all Units in the overall Organization structure (assuming all of the Units exist in the latest program year).

The development of a new Organization structure typically starts by opening the FOCIS Startup Position database by clicking **File > Open** on the FOCIS Main Menu. This database has a minimal Organization structure, with only a Ministry of Defense, a General Staff, and

three military Services. The Startup Position available with your FOCIS installation will look similar to that shown in Figure 3-3.

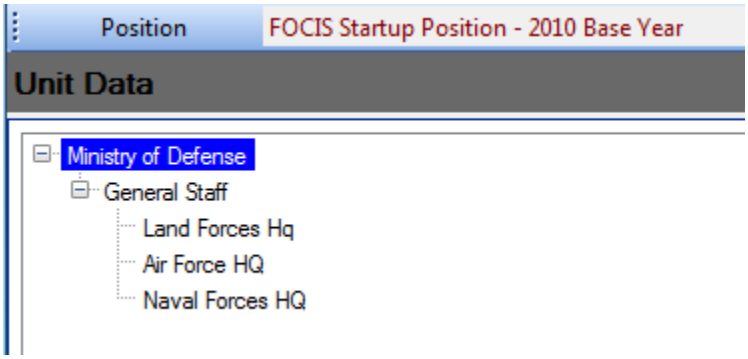


Figure 3-3. FOCIS Startup Position in Unit Organization Display

The Startup Position has Unit Organization data for one year (the single year varies depending on when FOCIS is first deployed to a country). The initial Unit structure is created for a single year to make the initial entry of Unit Resource data, such as Manpower, easier. FOCIS provide tools that make it easy to extend this single year's data to a longer term planning period.

The normal way to build the initial FOCIS database is to create Organization data for a single year—typically the last full year rather than the current year[2]. Before starting to enter Organization data, it is a good idea to change this year in the Startup Position, if necessary (see instructions in the "Adding and Deleting Years" section on page 3-8), so that only the year of interest remains.

Next, make whatever changes are necessary to correct the names of the existing Units, or delete those Units if they do not exist. Assuming you have completed the Setup data entry described in Chapter 2, you can now start adding Units, working from the top Unit down to the lowest level you will represent in FOCIS.

[2] The last fully completed year is normally used because users will want to have complete expenditure data to match the Unit structure and the Resources/Activities of those Units. Having accurate Cost and Unit data is the best way to create a database with cost estimating relationships that can be validated with confidence.

Adding New Units

To add a Unit to the organization, right-click on the Unit that will be the parent of the new Unit. The shortcut menu shown in Figure 3-4 appears. After clicking the **Add** option, the Add window shown in Figure 3-5 appears.

The Add window allows you to enter a Unit Name, Unit Code, Service Name and Command Level for the new Unit. Unit Code is an optional entry and can be used to record an official Unit Identifier if one exists.

For the instructions in this chapter, the FOCIS Demo Database is used.

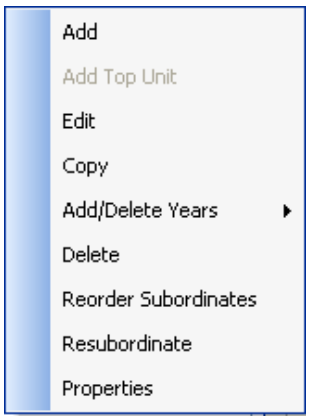


Figure 3-4. Shortcut Menu Options

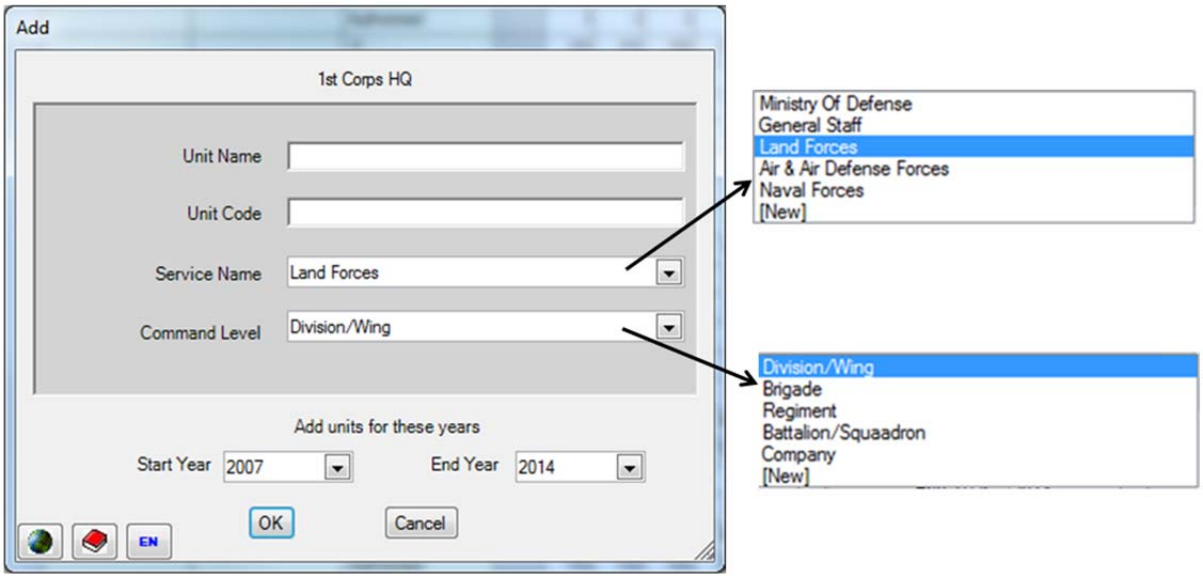


Figure 3-5. Add Window

The Add window also shows the year range of the selected parent Unit and allows you to choose any year range within these bounds for the new Unit. The default Service Name is the Service of the selected parent, and the default Command Level is the next level below that of the parent Unit's Command Level. You can select a different Service and any lower Command Level.

If the current lists of Services and Command Levels do not contain the choices needed, use the "[New]" option in each drop-down list to open the Services and Agencies or Command Levels setup windows, where new items can be added to these lists. See the Organization Structure section of Chapter 2 for details on creating new Services or Command Levels.

Click the **OK** button to save the data, or click the **Cancel** button to return to the main display without making any changes.

Editing Unit Data

It is possible that after a Unit has been created, some aspect of that Unit's descriptive data changes. The Edit window (Figure 3-7) allows users to revise a Unit's Name, Unit Code, Service, or Command Level, and is accessed by right-clicking on the Unit Name and selecting the **Edit** option from the shortcut menu. Figure 3-6 shows the drop-down list for the Command field.

Figure 3-6. Command Field Drop-Down List

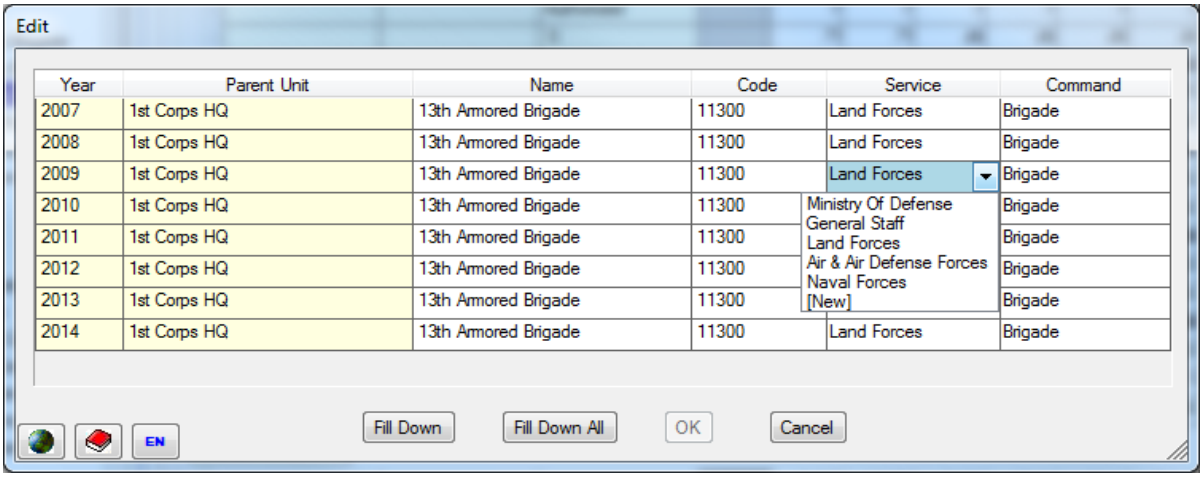


Figure 3-7. Edit Window Showing Service Drop-Down List

As Figure 3-7 shows, when clicking in either the Service or Command columns, you can choose a new Service or Command Level from the existing lists. If the current lists of Services and Command Levels do not contain the choices needed, use the "[New]" option in each drop-down list to open the corresponding Setup window, where new items can be added to these lists.

After changing the entry in a cell, users can duplicate that choice in all subsequent years by choosing the **Fill Down** or **Fill Down All** buttons. **Fill Down** will copy the choice to all rows below the one you are editing. **Fill Down All** will copy the choice to all rows in the grid, even the rows above where you are editing.

Adding and Deleting Years

FOCIS is designed to create a database for multiple years. Years are typically added after all of the Unit and Cost data have been entered for a single Base Year and validation efforts have been completed. Years may also be added over time as FOCIS is used to develop program plans in each subsequent year. Years are sometimes deleted from the start of the year range as FOCIS is used year after year and the database grows to be larger than desired. The **Add** and **Delete Year** functions are only used to add years to, or delete years from, the start or end of the existing year range. The **Add/Delete Years** function sub-menu is shown in Figure 3-8.

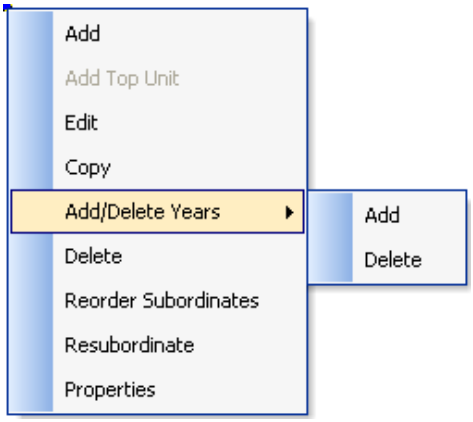


Figure 3-8. Add/Delete Years Options

The **Add/Delete Years** function is started by right-clicking on any Unit in the Unit structure. When the top Unit in the structure is selected as the starting Unit, the year range of all subordinate Units is modified. If a Unit below the top Unit is selected as the starting point, years are only added to or deleted from the selected Unit and all of that Unit's subordinate Units. The **Add/Delete Year** function is used to deactivate existing Units or show the activation of new Units during the year range of the overall database Position. Activations and Deactivations are accomplished by controlling the year range in which each Unit exists.

When you select **Add/Delete Years > Add** or **Add/Delete Years > Delete**, the corresponding window shown in Figure 3-9 opens.

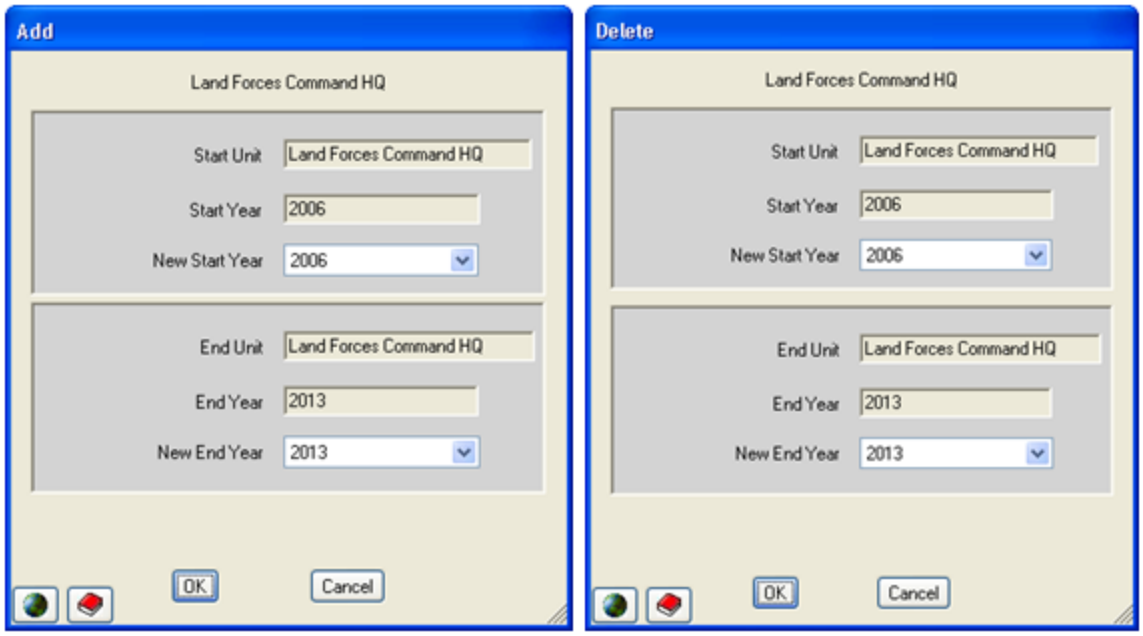


Figure 3-9. Add and Delete Years Windows

You select a New Start Year and a New End Year from choices provided in the drop-downs. The year range available to add years is based on the current year range of the Unit that is immediately superior to the selected Unit where years will be added. **If the selected Unit (Land Forces Command HQ** in Figure 3-9**) already exists for all years that its parent Unit exists, no additional years can be added.**

If the selected Unit is the top Unit in the overall Unit structure (e.g., the Ministry of Defense), any number of years can be added to the beginning or end of the range. Since years are added to all of the selected Unit's subordinate Units, using **Add/Delete Years** with the top Unit is the only way to add years to the entire data set.

> NOTE FOR EXPERIENCED USERS: When years are added to the entire database, FOCIS automatically adds years to other selected portions of the data, e.g., Unit Resources, Inflation data, Budget Line Items costs. When years are added to the Unit organization, FOCIS adds costs for any Budget Line Items that have their Auto Extend property set to **True** (See Chapter 2, FOCIS Setup Data). The values in the current last year are used when adding years to the end of the range and the values in the current first year are used when adding years to the start of the range. These same rules are used to extend Unit Resource data (e.g., Manpower, Equipment, etc.).

Copying Units

The Unit Organization can be expanded by copying an existing Unit (and all of its subordinates). When you right-click on a Unit and then select the **Copy** option from the

shortcut menu, a message appears that reminds you to click on the Unit where the copied Unit(s) will be pasted in the Unit structure (Figure 3-10).

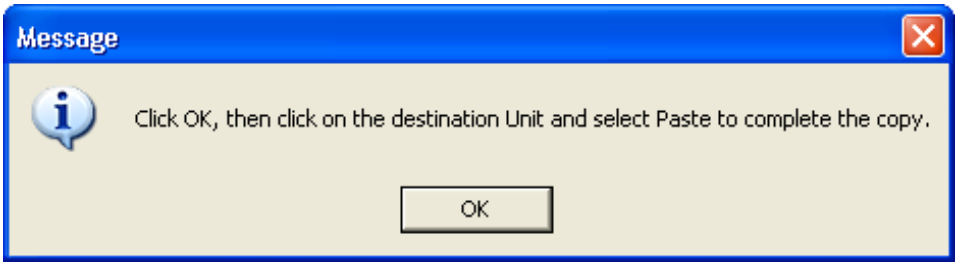


Figure 3-10. Copy and Paste Message

After clicking the **OK** button on this message, return to the Unit Organization display and right-click on the Unit that will be the immediate superior of the copied Units. In the shortcut menu, select the **Paste As Subordinate** option (Figure 3-11). The **Paste As Subordinate** option will add the copied Units as subordinates of the Unit selected. If, instead, you want to cancel the Copy action at this point, click the **Cancel Copy** option in the shortcut menu.

After selecting **Paste As Subordinate**, the Paste Unit window appears (Figure 3-12), to allow you to rename each of the copied Units and alter its Service association if desired.

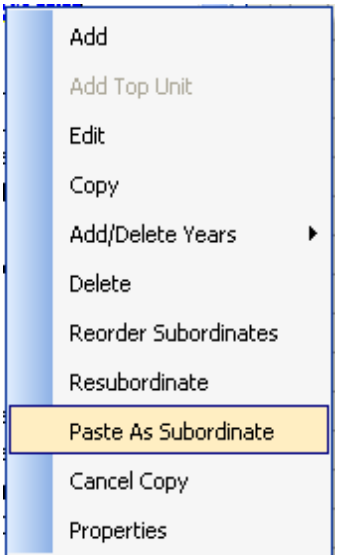


Figure 3-11. Paste As Subordinate Shortcut Menu Option

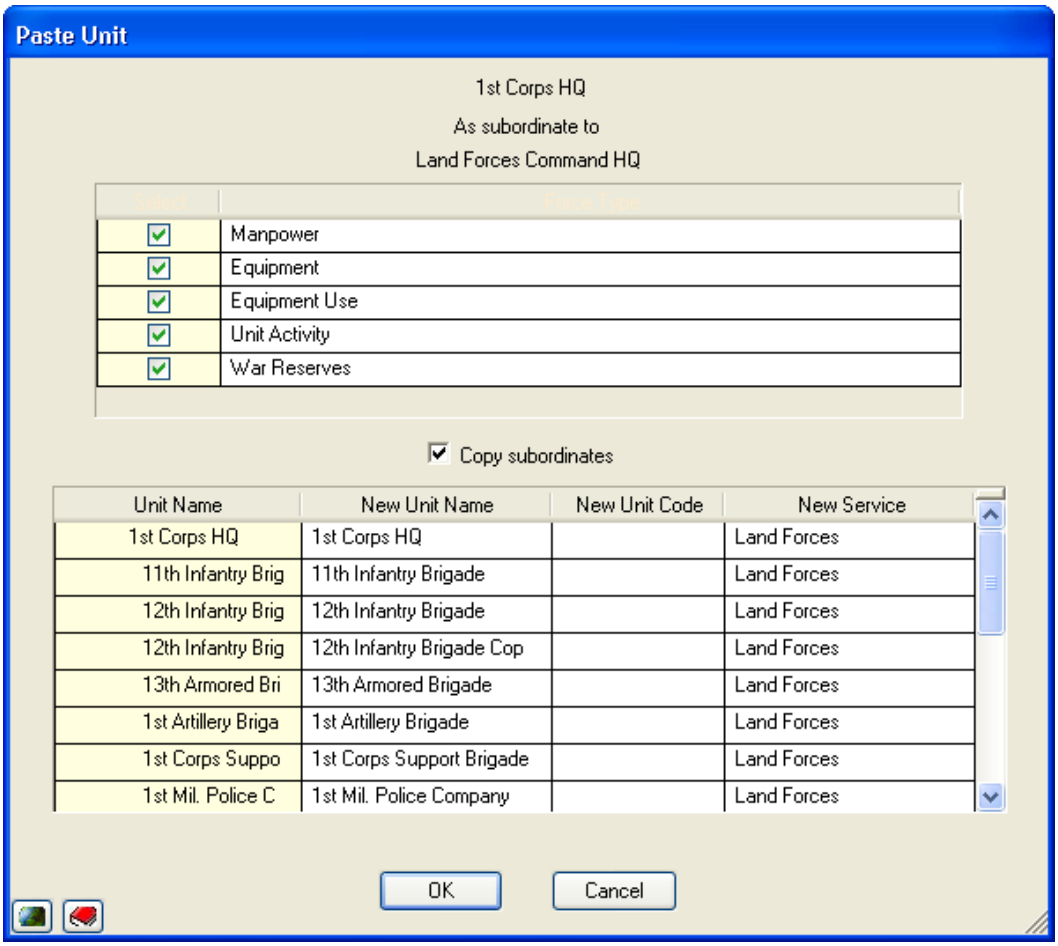


Figure 3-12. Paste Unit Window

The window shows the Copy and Paste conditions, listing the Unit being copied and how the Unit and its data are being pasted into the structure. It is a good idea to double-check these data before proceeding.

The Paste Unit window also permits you to choose which Unit Resource data (Manpower, Equipment, etc.) should also be copied when creating the new Units from those that were copied. You can choose to copy just the basic organization characteristics (Unit Name, Code, and Service) or also copy any subset of the Unit Resource data.

When copying Units, FOCIS assigns the names of the copied Units to newly created Units as the default names. The bottom portion of the window allows you to revise the default New Unit Names (second column in Figure 3-12), while showing in the left-most column the names of the Units from which the data will be copied, for reference. By default, FOCIS assumes that the new Units will be associated with the same Service of the copied Units. If desired, a different Service can be assigned as part of the Copy and Paste process by selecting the new Service using the drop-down arrow in the New Service field (Figure 3-13).

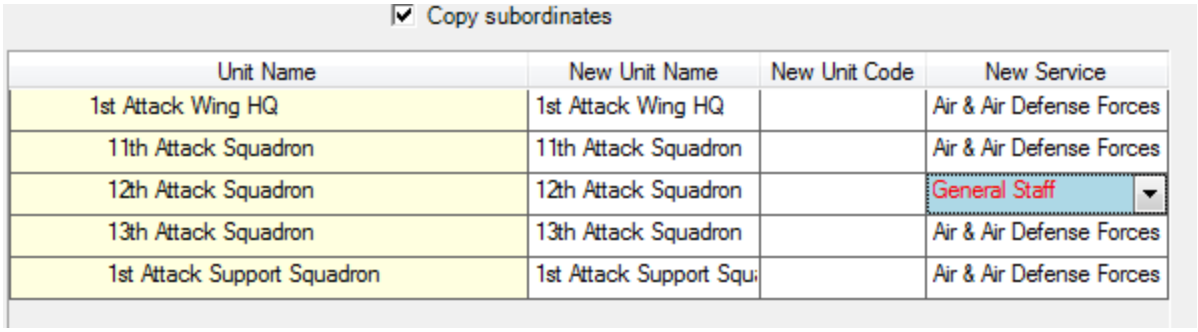


Figure 3-13. Changing the Service of a Copied Unit

Any of the edits that can be made using the Paste Unit window can be made later, using the **Edit** function available as a right-click shortcut menu option for each Unit.

Unit names are not required to be unique. If you do not change the names on this window, they will be pasted into the Organization structure as shown in the left column in Figure 3-12 (see the sample results in Figure 3-14). If this happens, you can change the name of any newly added Unit by selecting it, right-clicking, and choosing the **Edit** option as described in the section titled "Editing Unit Data" on page 3-7.

If the Copy subordinates check box shown in Figure 3-12 is not checked, only information on the Unit selected for copying will be added to the Organization structure. See Figure 3-15, showing the subordinate information shaded and unavailable for editing.

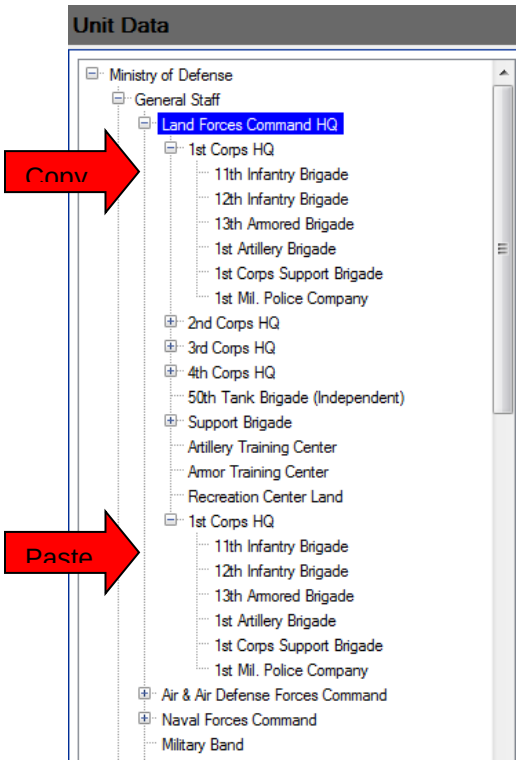


Figure 3-14. Copy and Paste Results with Subordinates Included (Not Edited)

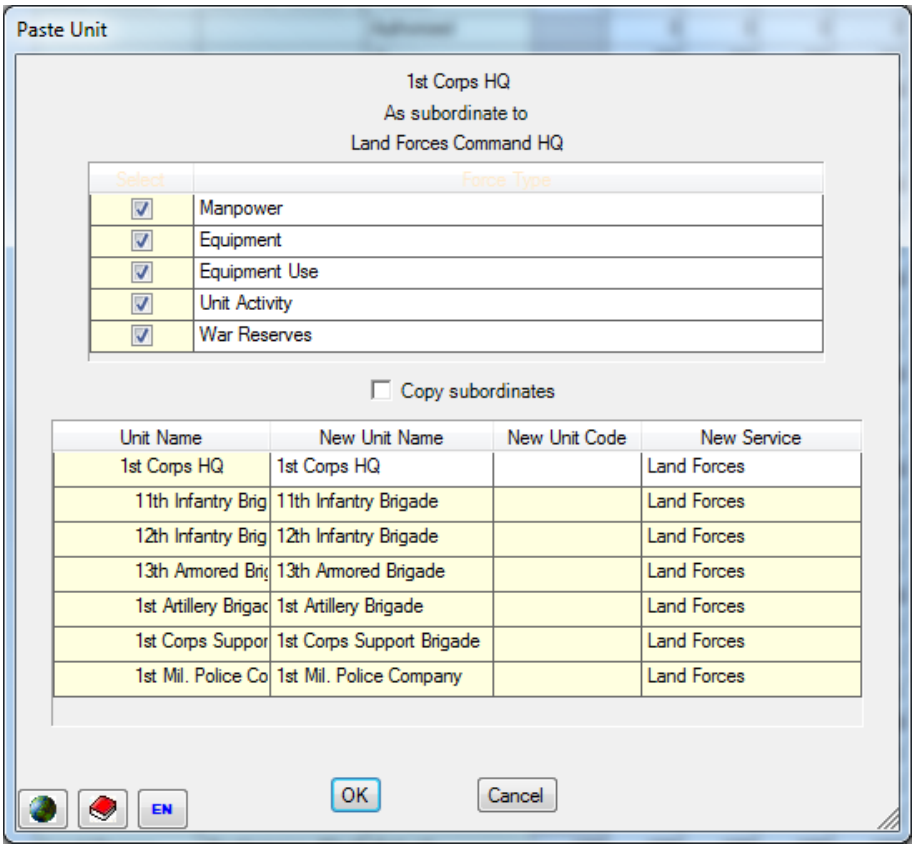


Figure 3-15. Paste Unit Window with "Copy subordinates" Not Selected

In this example, the New Unit Name (1st Corps HQ) was not changed, and a Unit with the same name (with no subordinates) was created under Land Forces Command HQ (Figure 3-16). The new Unit can be deleted and the Copy process repeated or you can edit the name.

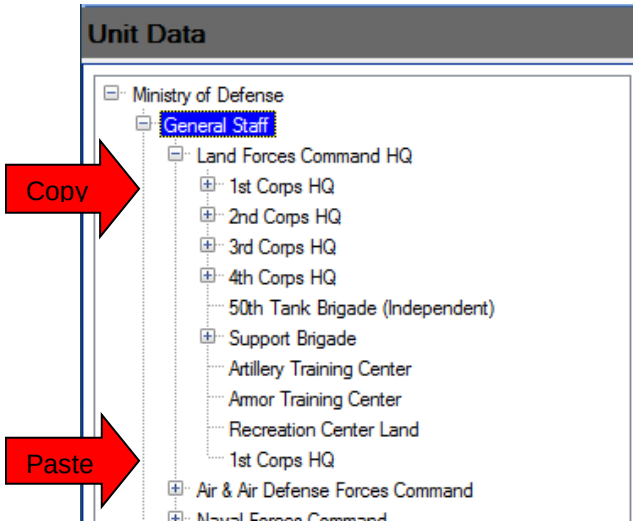


Figure 3-16. Copy and Paste Results for Selected Unit Only (Not Edited)

NOTE FOR EXPERIENCED USERS: If you use duplicate Unit Names, it is very important that you use a unique Unit Code for every Unit. If either the Unit Name or Unit Code is not unique, it will not be possible to use the automated **Import From Excel** functions described in Chapter 8, Utilities. Unit Codes are assigned using the **Edit** option in the Unit Data pane (see Figure 3-7).

Reordering Units

The order in which Units are added is often not the final order in which users would choose to display the Unit Organization structure. You can change the display order in FOCIS .by reordering the Units under a single parent Unit. To start this process, select the **Reorder Subordinates** option from the shortcut menu after right-clicking on the Unit whose subordinates you want to reorder. Figure 3-17 and the steps that follow provide instructions for performing this process on the sample displayed Organization structure.

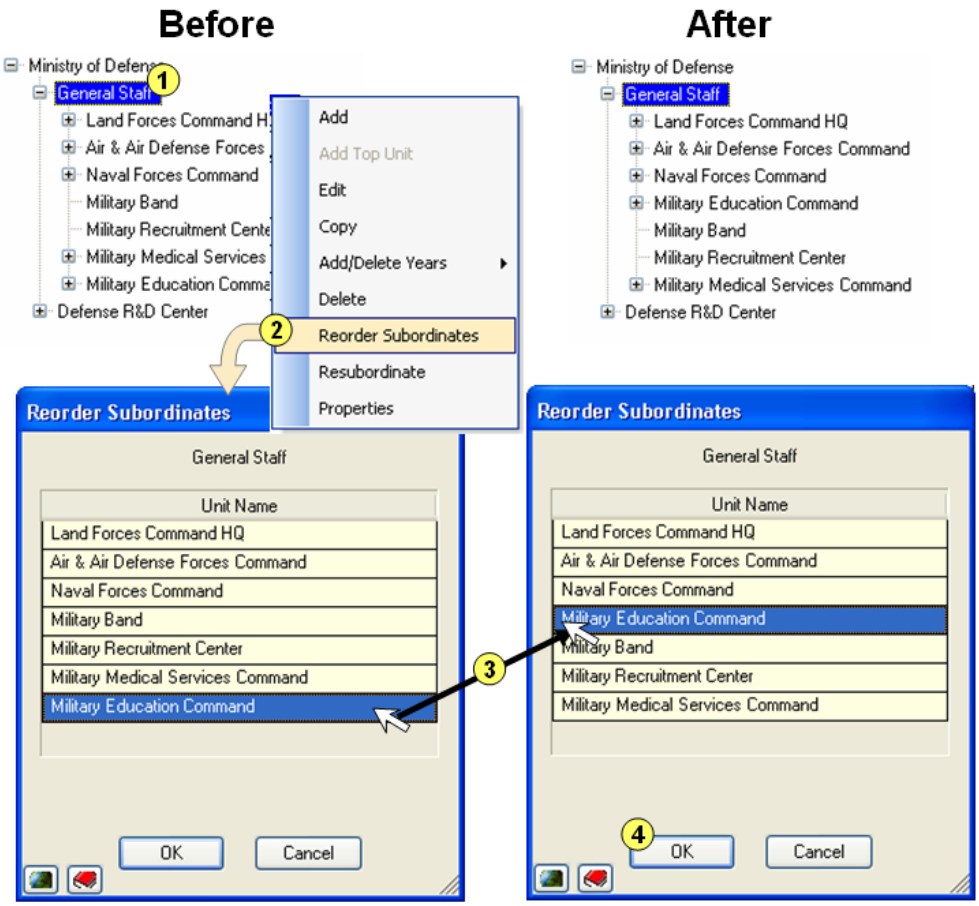


Figure 3-17. Process for Reordering Units

6. Right-click on a Unit whose subordinates need to be reordered.

7. Select **Reorder Subordinates** from the shortcut menu. The Reorder Subordinates window appears.
8. Click on Military Education Command, hold down the left mouse button, drag the selected Unit above Military Band, and release the button.
9. Click the **OK** button.

The result is shown in the "After" area in the upper right corner of Figure 3-17.

Resubordinating Units

Resubordination and Reordering are two different functions. Reordering leaves all affected Units under their original parent Unit but changes the order in which Units appear in displays and reports. Resubordination changes a Unit's parent Unit (for a selected year range).

You can start the Resubordination process in either of two ways—by dragging a Unit onto its new parent in the Unit Data Organization structure (Figure 3-18) or by right-clicking on the Unit to be resubordinated and selecting the **Resubordinate** option from the shortcut menu. Using either approach will cause the Resubordinate window to appear, as shown in Figure 3-19.

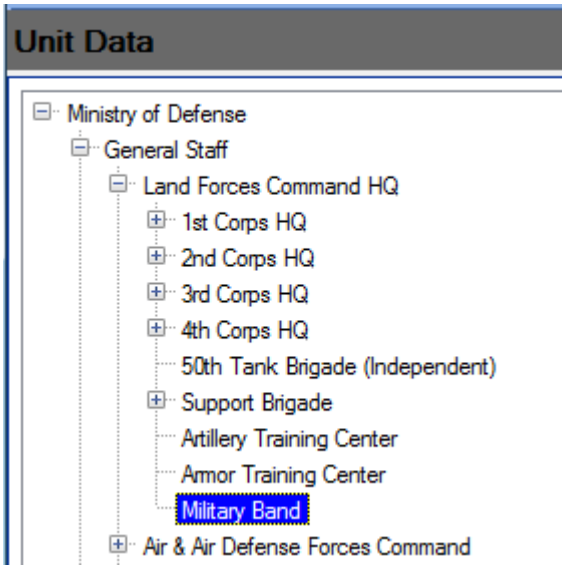


Figure 3-18. Unit Data Organization Structure

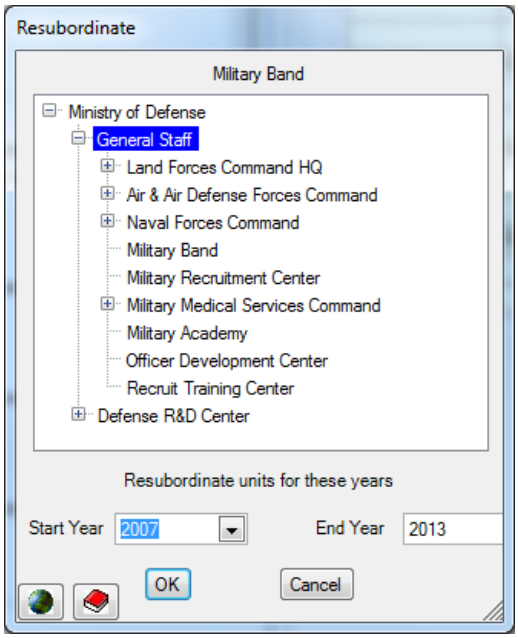


Figure 3-19. Resubordinate Window with New Parent Selected

In the example shown above, the Military Band is subordinate to the Land Forces Command HQ (in Figure 3-18) and is dragged to the General Staff Unit name (in Figure 3-19). The Resubordinate window always shows the name of the Unit that is being resubordinated at the top (Military Band in the example).

If the window opens after a drag-and-drop action, the Unit Organization structure in the window has the resubordinated Unit's new parent highlighted (General Staff in Figure 3-19). If the new parent Unit is not correct, you can change this selection at any time by clicking on the correct new parent Unit before clicking the **OK** button.

If the process is begun by using the **Resubordinate** shortcut menu item, the Unit Organization structure has the current parent Unit highlighted (Figure 3-20). You must select the new parent Unit before clicking the **OK** button.

Resubordination using either method can be done for any year range in which the new parent Unit exists. Use the **Start Year** and **End Year** drop-downs to select those years and then click the **OK** button.

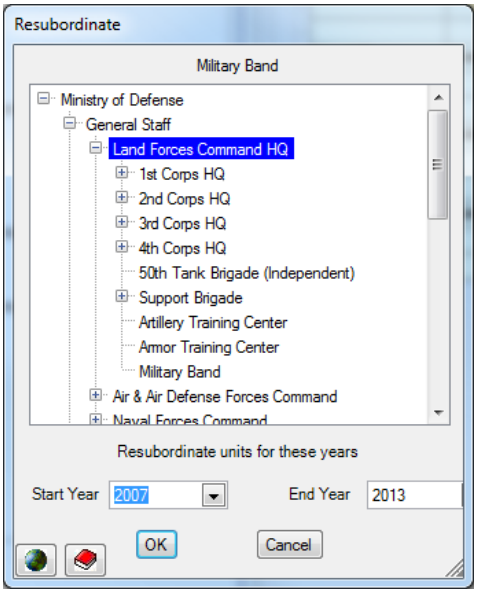


Figure 3-20. Resubordinate Window with Current Parent Selected

The Unit being resubordinated must have a lower Command Level than the new parent Unit. If it does not, the message shown in Figure 3-21 will be displayed.

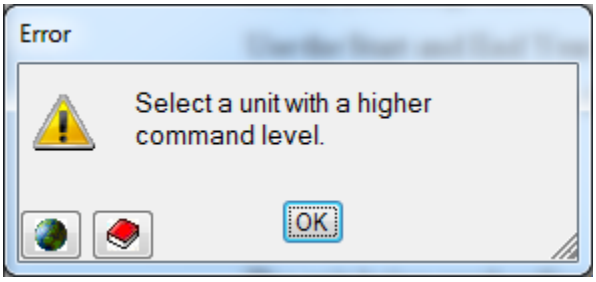


Figure 3-21. Wrong Level Error Message

Viewing and Exporting the Multi-Year Structure

The Organization structure of a defense program changes over time. FOCIS displays only one year of the structure at a time in the Unit Data Work Area. However, FOCIS does provide a window that will display the Unit Organization structure over several years. That window can be selected from either the Main Menu (**Tools > Unit By Year**) or from the Reports Work Area. The Units by Year window is shown in Figure 3-22.

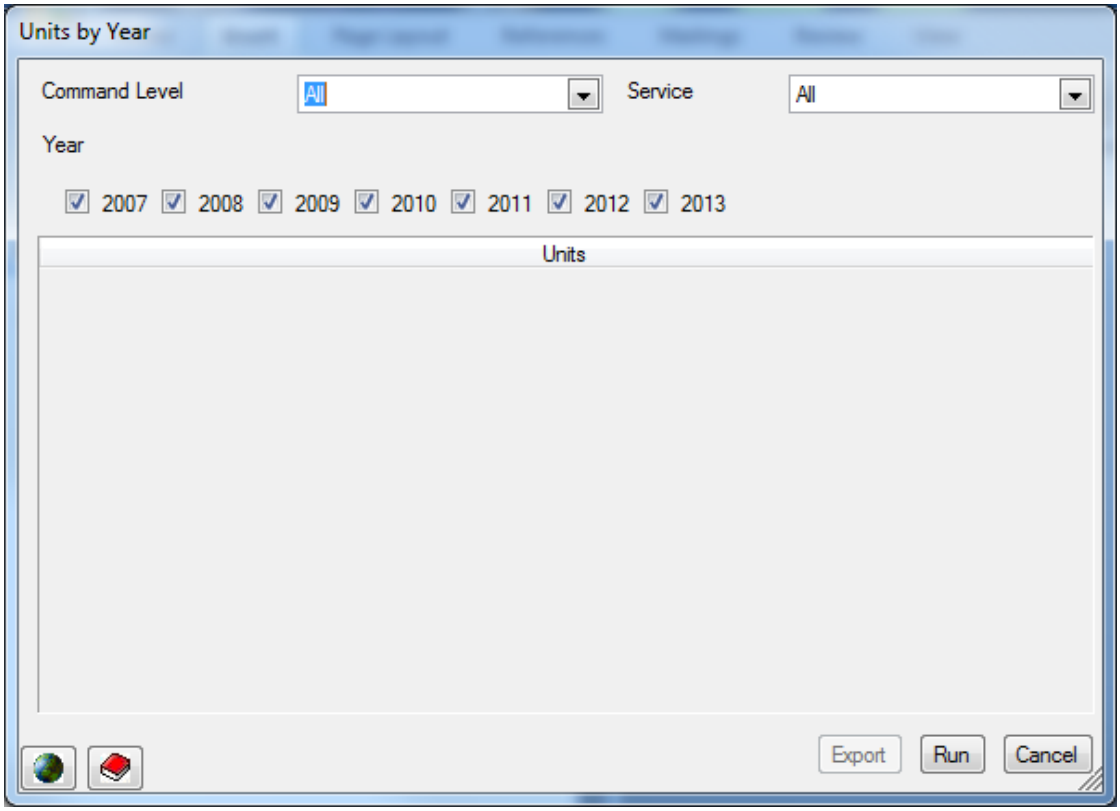


Figure 3-22. Units by Year Window

This window allows you to create a summary of the Unit Organization structure for any selected number of years, from the top down to a selected Command Level, and for all or one Service or Agency. When the desired conditions are set, click the **Run** button to see the view (Figure 3-23).

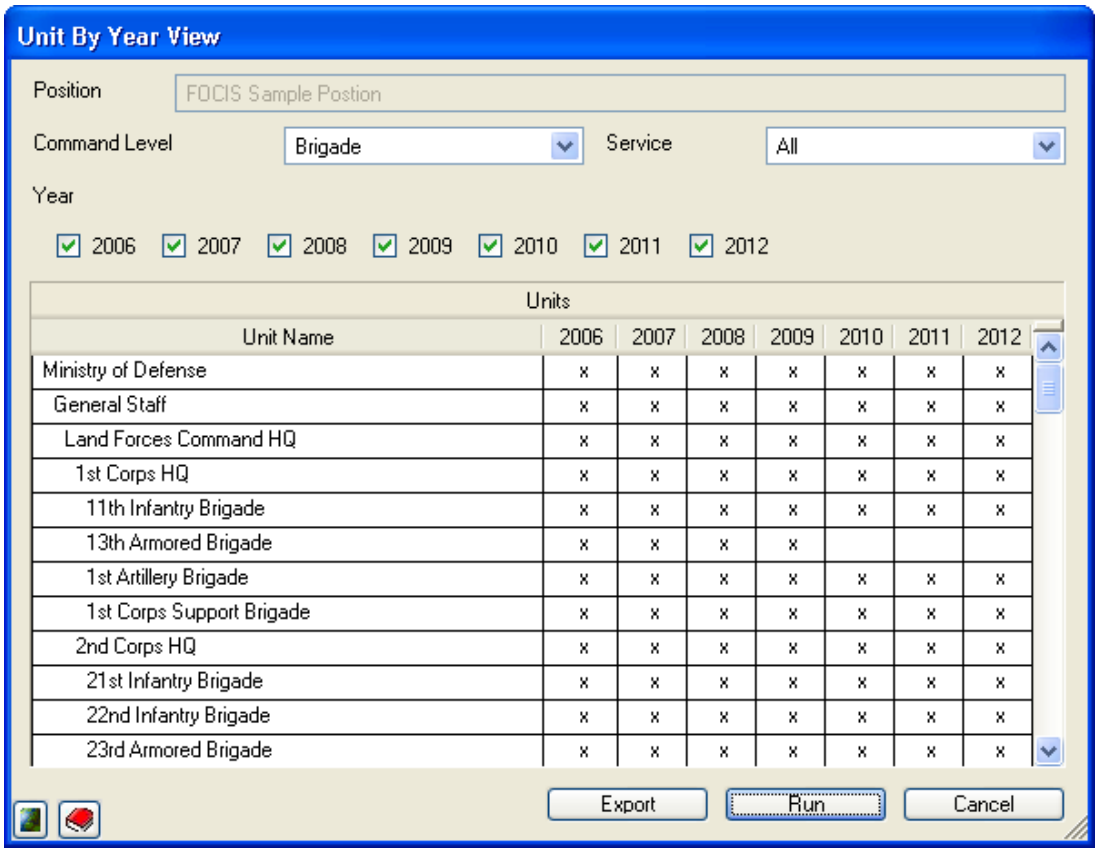


Figure 3-23. Unit by Year View

An "X" appears in each year column that a Unit actually exists. In the example above, the 13th Armored Brigade exists only in 2007 to 2009.

These data can be exported to an Excel spreadsheet by clicking the **Export** button at the bottom of the window.

Descriptive data on multiple Units (Name, Parent Unit, Service, and Command Level) can be viewed and exported from the Reports Work Area (Unit Information/ Unit Details report). See Chapter 7, Reports, for detailed information.

Finding a Unit

The overall Unit organization structure can become complex, and finding a specific Unit can be difficult for those who are not familiar with the structure. The **Find Unit** button, shown in Figure 3-24, opens a powerful tool for finding Units. Clicking the **Find Unit** button opens the window shown in Figure 3-25.

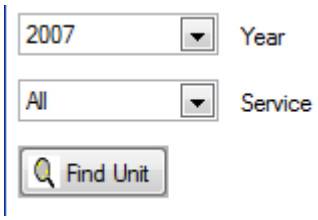


Figure 3-24. Find Unit Function

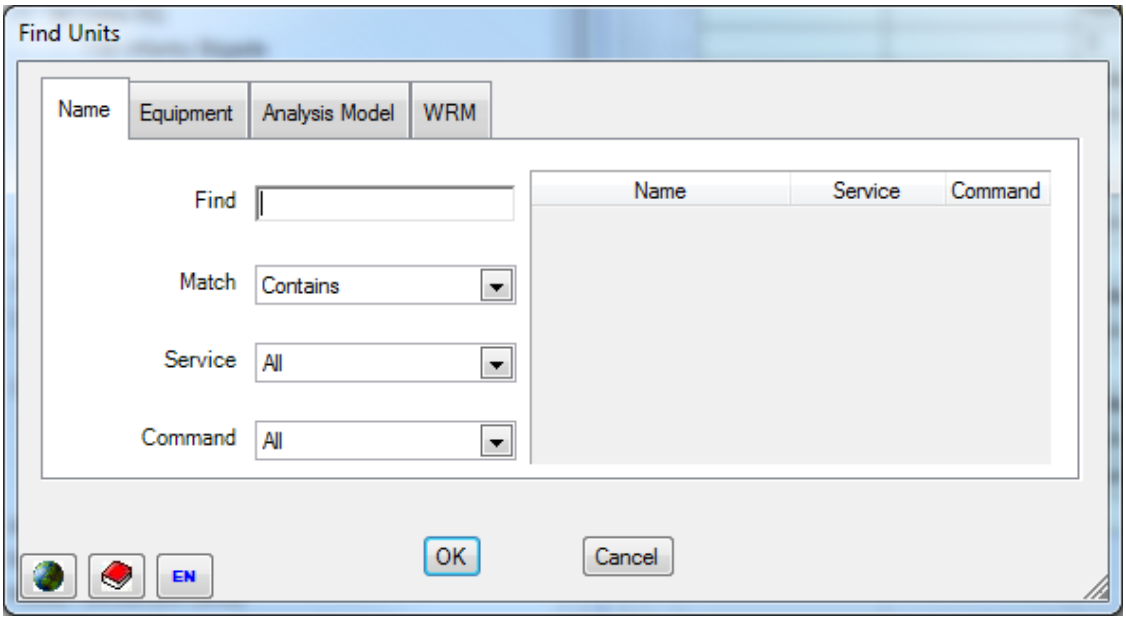


Figure 3-25. Find Units Window

You will notice that there are four tabs at the top of this window. Each tab provides a different way to find a Unit.

The Name tab allows you to find a specific Unit by typing any text in the Find field. Figure 3-26 shows what happens when the text “infantry” is entered. Notice that the choice in the Match field is preset to “Contains,” but you can change it by clicking the drop-down arrow. The other choices are **Exact**, **Starts With**, and **Ends With**. You can also limit the selection to a single Service or Command Level by clicking the drop-down arrows in those fields. The Service and Command Level fields can also be used without a text entry in the Find field (Figure 3-27). Select a Unit by clicking on any displayed Unit name, and then click the **OK** button to go to that Unit in the Unit Organization structure.

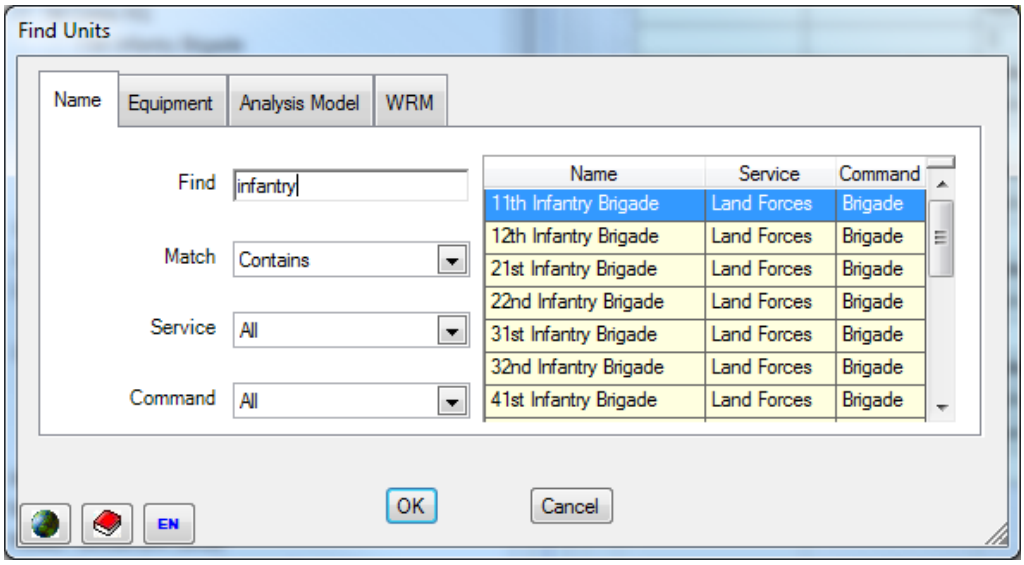


Figure 3-26. Find Units Window – Name Tab

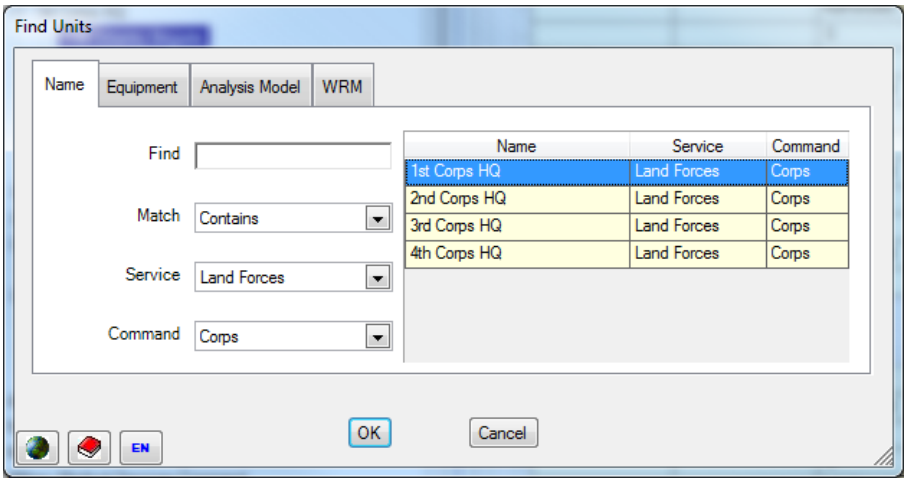


Figure 3-27. Name Tab – Service and Command Selected

Selecting the Equipment tab provides a way to find any Unit with a selected type of Equipment. Figure 3-28 shows all Units that have Medium Trucks.

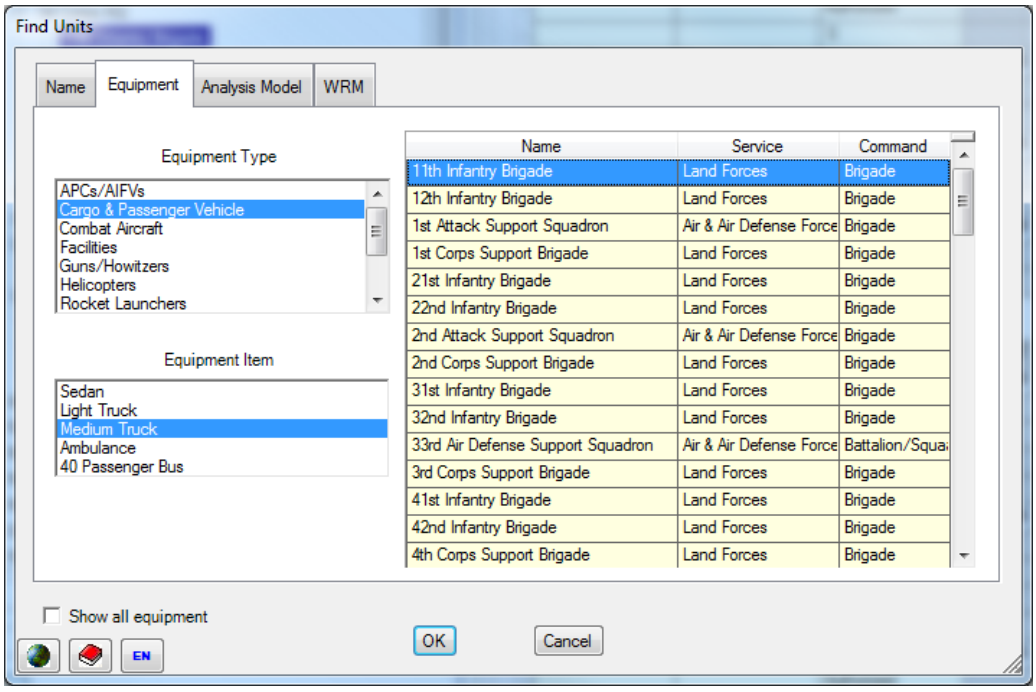


Figure 3-28. Find Units Window – Equipment Tab

The Analysis Model tab allows you to find a Unit based on its membership in any category in any Analysis Model that uses Units as the basis for assignment to a category. Figure 3-29 is set to use the Program Structure Analysis Model and the user has selected the Land Forces subcategory of the Rapid Reaction Forces category. All Units currently assigned to this subcategory are displayed on the right. Choose any of the Units and click the **OK** button to return to the main Unit Data display with that Unit highlighted.

You can choose other analysis models by clicking the drop-down arrow in the Version field.

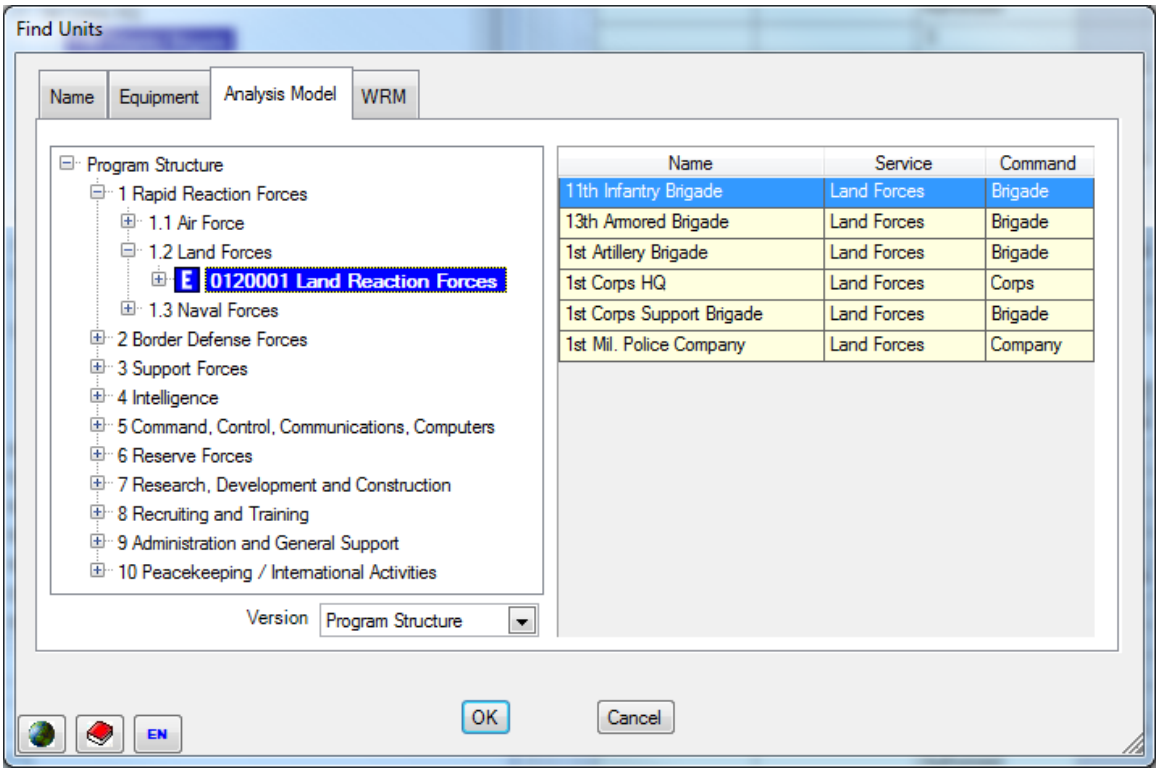


Figure 3-29. Find Units Window – Analysis Model Tab

See Chapter 6 for information on Analysis Models.

Choosing the WRM tab provides a way to find any Unit with a selected type of War Reserve Material. Figure 3-30 shows all Units with Aviation Fuel.

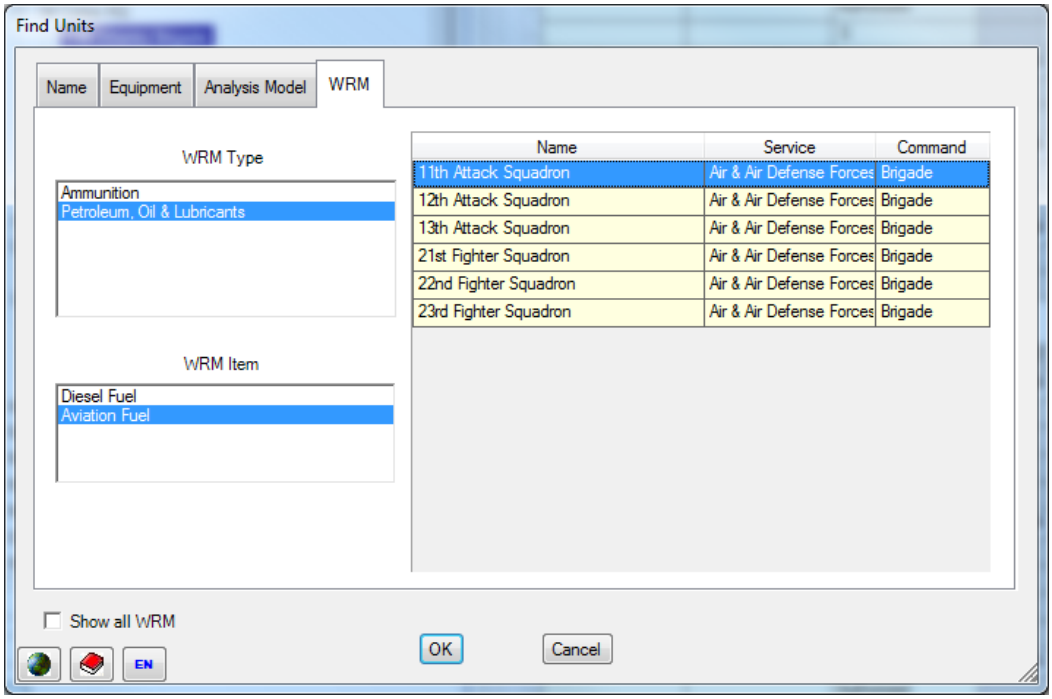


Figure 3-30. Find Units Window - WRM Tab

Chapter 4.
Unit Resource Data

FOCIS users collect, enter, and modify several types of data while using FOCIS:

- **Setup data:** Information that describes the basic characteristics of a country's defense program in the country's own terms and in a manner consistent with the data that are available.
- **Organization Structure data:** Information on the military Units and civilian organizations that comprise the total defense program.
- **Unit Resources data:** Information on the Personnel and key material Resources in each Unit and organization.
- **Cost data:** Information on the costs of purchasing, using, and maintaining the Personnel and material Resources of defense.

FOCIS databases and windows provide the capabilities to describe the quantities and uses of Resources in each Unit in the organization structure in five categories that FOCIS calls the Unit Resources:

- Manpower
- Equipment (Inventory data)
- Equipment Use
- Unit Activity
- War Reserve Material (Stockpile data)

FOCIS provides three different types of tools you can use to enter, modify, or view Unit Resource data.

- The Single Unit Display: Displays all Resources for a single Unit
- The Single Resource Display: Displays all Units having a specific Resource
- The Unit Resource Adjustments Window: Provides a tool for changing Resources by applying a user-selected logic to multiple Units, one or more Resources, and any number of years.

Introduction to the Unit Data Work Area

The Unit Data Work Area includes two types of data:

- The administrative[3] organization structure of defense
- Unit Resources (i.e., Manpower, Equipment Inventories and Equipment Use, Unit Activity, and War Reserves)

Figure 4-1 shows the Unit Data Work Area window with Organization Structure data in the left pane and Unit Resource data in the right pane. Whenever a Unit is selected from the organization structure, its resource information is shown on the right, in the Single Unit Display, where it can be viewed or modified. When desired, Unit Resource data for the selected Unit can also be exported to a Microsoft Excel spreadsheet.

In Figure 4-1, the 1st Corps HQ Unit has been selected in the left pane and its Resources show on the right.

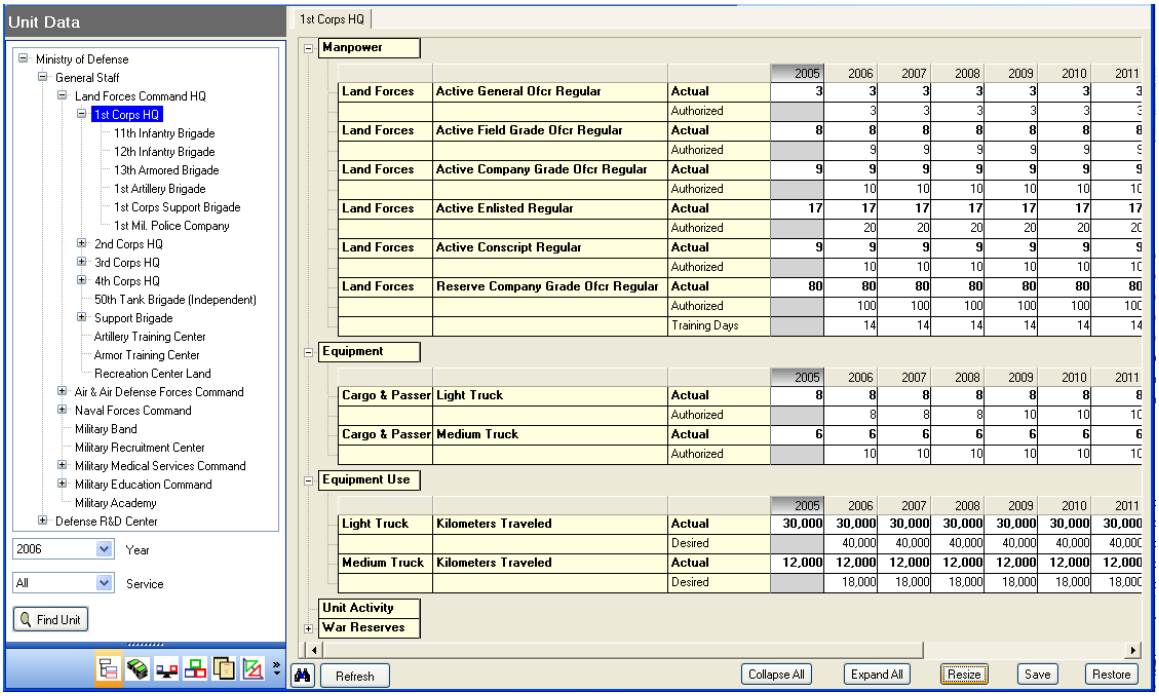


Figure 4-1. Unit Organization of the FOCIS Demo Database – 1st Corps HQ Selected

> NOTE: All organizations within the defense establishment, whether military or civilian, are referred to as "Units" in FOCIS.

[3] The administrative organization describes the superior and subordinate relationship between Units for administrative and budgeting purposes. The relationship of Units for the purpose of conducting military operations may be different. It is possible to represent the operational command relationships using FOCIS analysis models described in Chapter 6.

Introduction to Unit Resource Data

Unit Resource Data

FOCIS is designed to allow you to describe the administrative organization of the total defense program. The basic element of the organization structure is called a Unit—whether that element has a combat, support, or administrative function. Once the organization structure is created, you next describe the physical Resources that each Unit has and their levels of use. These Resource data are then used with cost factors created in the Cost Work Area to estimate the costs of defense programs.

By creating alternative organization structures and varying levels of resources and Unit activity, the costs for these alternative programs can be estimated and evaluated.

In many ways, Unit organization and Resource data are the foundation of FOCIS. Together, the Unit Resource information and the estimated total cost data form the basis for budgeting and later for performance evaluation.

The following paragraphs discuss each of the five types of Unit Resource data that can be used to describe each Unit in the organization structure.

Manpower Data

FOCIS provides the ability to record Manpower for each Unit. The data are composed of a combination of a Personnel Type and a Budgeting Service. The Budgeting Service is the Service or Agency whose budget pays the people and does not have to be the Service associated with the Unit's chain of command. For example, Personnel whose costs are included in the Army budget but who are assigned in the General Staff would normally be shown in the Unit named General Staff with the Budgeting Service set to Army.

Manpower data are entered for both the Authorized and Actual quantities of Personnel. The Authorized quantity should be the number of Personnel required for a Unit to be fully manned for the peacetime mission of the Unit. In many countries this quantity is established by an official document such as the Table of Organization and Equipment (TOE) or Table of Distribution and Allowances (TDA) documents used in the U.S. Department of Defense (DOD). The **Actual** quantity should be the number of Personnel who will need to be paid each year.

Actual Manpower often changes during a year. Taking this into consideration, it is important to have a clear understanding of the meaning of the value entered as the **Actual** quantity. The Actual quantity is used to represent the number of Personnel who were or will be present on some fixed date during the year, e.g., the last day of the year. (Note: FOCIS is able to use the changes in Actual manning from year to year so that costs associated with Manpower can be based on the average manning during each year. This is explained in the "Personnel Setup Data" section in Chapter 2, Setup Data).

The Manpower display in Figure 4-2 shows Actual and Authorized quantities for two Personnel Types, both funded by the Land Forces budget. The Unit shown exists in the database starting in 2007, but data for 2006 Actual are shown for reference since these data are used to calculate average manning when required.

Manpower

			2006	2007	2008
Land Forces	**General Officer (Active/Avg Pay)**	**Actual**	**8**	**8**	**8**
		Authorized		8	8
Land Forces	**Field Grade Officer (Active/Avg Pay)**	**Actual**	**50**	**50**	**50**
		Authorized		50	50

Figure 4-2. Actual and Authorized Quantities for Personnel Types

The display for any Reserve Personnel manning also shows Training Days. In the case of the Personnel Type "Company Grade Officer (Reserve/Regular)" in Figure 4-3, ten are Authorized in each year and an Actual number of ten are in or planned to be in the Unit in both 2007 and 2008. The number of Training Days is 14 days for each officer.

			2006	2007	2008
Land Forces	**Company Grade Officer (Reserve/Regular)**	**Actual**	**10**	**10**	**10**
		Authorized		10	10
		Training Days		14	14
Land Forces	**Conscript (Reserve/Regular)**	**Actual**	**100**	**100**	**100**
		Authorized		100	100
		Training Days		14	14

Figure 4-3. Example of Training Days for Reserve Personnel

Equipment Data

FOCIS provides the ability to record Equipment Inventories for each unit. Equipment is recorded by the name of each Equipment Item, and the display is organized based on the Equipment Category where that Equipment Item was created. (Note: A description of Equipment Categories and Equipment Items, along with instructions for how to create and modify them, is in Chapter 2, Setup Data).

Equipment data are entered for both the Authorized and Actual quantities of Equipment. FOCIS can also record the number of Items in Storage in each Unit. The Authorized quantity should be the number of Items required for a Unit to be fully equipped for the peacetime mission. In many countries, this quantity is established by an official document such as the TOE or TDA documents used in the U.S. DOD. The Actual quantity should be the total number of Equipment Items in the Unit, including any items in Storage. The number of Items in Storage should be the number of Items that do not incur the same level of costs to maintain as those Items used for current operations or training.

Different costs factors are used for items “In Use” and items in Storage. (Note: Chapter 5 describes how Equipment operating and maintenance cost factors are described and calculated).

Equipment Items (In Use) = Actual Quantity – Storage Quantity

Figure 4-4 shows a typical Equipment entry for the M-113A1, which is in the APCs/AIFVs Equipment Category. The Unit has a total of eight of its authorized ten M-113A1s. In this case, five of the total eight M-113A1s are considered “In Use” and three are in Storage.

Equipment

			2006	2007	2008
APCs/AIFVs	**M-113A1**	**Actual**	**8**	**8**	**8**
		Authorized		10	10
		Storage		3	3

Figure 4-4. Typical Equipment Entry

Equipment Use Data

FOCIS provides the ability to record Equipment Use for any Equipment Item that has been included in the Equipment Inventory of a Unit. Equipment Use is recorded in terms of one or more Metrics (e.g., kilometers, flying hours, etc.). (Note: A description of Metrics and how Metrics are associated with Equipment Items is found in the “Metrics Setup Data” section of Chapter 2, Setup Data.)

Equipment Use data are entered for both Desired and Actual levels. The Desired quantity should be the level of use required for a Unit to be fully trained and able to conduct all of its normal peacetime missions. This quantity may come from approved training or operations plans. The Actual quantity should be the level of use that has been or will be performed. The quantity entered is the total amount of use for the selected Equipment and Metric in that Unit. If a Unit has ten trucks and each is expected to actually travel 3,000 kilometers in a year, you should enter 10 x 3,000 or 30,000 kilometers as the use.

Figure 4-5 shows an example of Equipment Use data. In this example, the eight M-113A1s held by the Unit have a Desired level of use of 5,500 kilometers per year but Actual (planned) use of 3,600 kilometers. The M-113A1 also has Equipment Use described in terms of Rounds Fired. If the Unit’s eight vehicles were fully funded for their operations and training ammunition, the Unit would fire 10,000 rounds a year; but the data show that only 8,000 rounds will be fired each year.

Equipment Use

			2006	2007	2008
M-113A1	Kilometers Traveled	Actual	3,600	3,600	3,600
		Desired		5,500	5,500
M-113A1	Rounds Fired	Actual	8,000	8,000	8,000
		Desired		10,000	10,000

Figure 4-5. Example of Equipment Use Data

Multiple Equipment Use Metrics may be recorded either as a basis for documenting the planned level or to actually affect the funds included in the program plan for this Unit's M-113A1s. Cost factors can be created for each combination of Equipment Item and Metric. Some costs, like fuel or repair parts, can be tied to Kilometers, and other costs, like ammunition, can be based on Rounds Fired. In either case, the costs will be based on the amount shown as Actual use. (Note: Chapter 5 describes how Equipment operating and maintenance cost factors are described and calculated.)

Unit Activity Data

FOCIS provides the ability to record Unit Activity using any combination of Metrics that apply to a Unit. Unit Activity is recorded to document either basic activity or performance objectives of a Unit, or as a basis for calculating costs for that Unit. For example,

- "Field Training Days" may be used to describe a combat Unit's training activity;
- "Patient Days" might be used to describe the activity level of a hospital; or
- "Student Graduates" might be used to describe a school or training Unit.

Where appropriate, multiple activity Metrics can be used to describe a Unit's activity. New Metrics are assigned to a Unit simply by adding the Metric as described below. (Note: Chapter 5 describes how Unit Activity cost factors are created and how Unit Activity costs are calculated).

Unit Activity data are entered for both Desired and Actual activity levels. The Desired quantity should be the level of activity required for a Unit to be fully trained or able to conduct its normal peacetime mission. This quantity may come from approved training or operations plans. The Actual quantity should be the level of activity that has been or will be performed.

Figure 4-6 shows an example of a Unit's activity described by two Metrics: Training Exercises and Deployed Days.

Unit Activity

			2006	2007	2008
Training Exercises		**Actual**	**1**	**2**	**0**
		Desired		2	0
Deployed Days		**Actual**	**60**	**60**	**120**
		Desired		60	120

Figure 4-6. Example of Unit Activity Described by Two Metrics

War Reserve Material Data

FOCIS provides the ability to record quantities of War Reserve Material (WRM) that are stockpiled for use in emergencies. WRM is material that is over and above the material that will be needed and consumed in training and conducting normal peacetime operations. The costs of material needed for training and planned operations should be represented as costs that are based on Unit Manpower, Equipment Inventory, Equipment Use, or Unit Activity. WRM should be thought of as a stockpile that is built up for unplanned events such as emergencies or natural disasters.

When FOCIS calculates costs to buy WRM, it uses the WRM inventory data to detect when the total amount of a WRM Item increases on a Service-wide basis. When the total WRM inventory of an Item increases in a Service, and a cost factor has been entered for that Item, funds are added to the program costs to purchase that Item. (Note: Chapter 5 describes how Unit Activity cost factors are created and how Unit Activity costs are calculated).

WRM data are entered for both the Desired and Actual stockpile levels. The Desired quantity is the level a Unit should have in order to meet the policy objectives for preparedness. The Actual quantities should be the quantities of each WRM Item that will be in that Unit's possession at the end of each year.

If WRM is being transferred between Units within the same Service, FOCIS will recognize this and no additional data will need to be entered. If, however, WRM Items are being transferred between Services, they should be recorded as part of the WRM Costs Transfer data (see Chapter 5). Failure to record these transfers will cause FOCIS to include costs to purchase WRM Items that came from another Service.

Figure 4-7 shows an example of a Unit's WRM data.

War Reserves

			2006	2007	2008
Ammunition	**12.7 mm (Rounds (000s))**	**Actual**	**200**	**200**	**200**
		Desired		300	300
Petroleum, Oil & Lubricants	**Diesel Fuel (Gallons)**	**Actual**	**92,400**	**92,400**	**92,400**
		Desired		140,000	140,000

Figure 4-7. Example of Unit WRM Data

There are many ways to represent WRM data. It can be summarized at a total Service level or at an intermediate command level such as the Division level, or it can be entered at a low level such as a Battalion. The appropriate level is a local choice depending on how data are reported in other data systems and how the information will be used. If it is important to know how WRM is distributed among Units, it might be best to enter FOCIS data to reflect this. In this way, it may be easier to verify that certain high priority Units are actually holding the level of WRM that matches these policies.

There are different ways that WRM ammunition can be represented. Some users track WRM ammunition by caliber, e.g., 105 mm, 50 caliber, 7.62 mm rounds, etc. This provides the greatest visibility, is more consistent with inventory audits, and more easily supports procurement or production planning procedures.

One problem with this approach is that most senior leaders establish WRM policies in more aggregate ways, using terms like Days of Supply or Basic Loads, which may tempt you to enter WRM ammunition using these units of measure. However, as weapons in a Unit change, tactics change, or the threat changes, the exact meaning of Days of Supply and Basic Loads for a Unit changes. If the number of rounds is used as the Metric to describe WRM ammunition, detail data can always be converted to equivalent summary measures without having to change many instances of data already entered.

Working With and Customizing the Unit Resource Views

FOCIS provides several ways to customize displays of Unit Resource data. First, you can revise many of the terms that appear on screens describing Resource data. Second, you can change which items of information are displayed. Third, you can work with percentage data rather than precise values for certain entries. Fourth, you can adjust the screen display to accommodate numbers. Fifth, you can view partially hidden labels when screen column widths do not accommodate the full text length. And sixth, you can adjust displays to work with one Resource rather than working with one Unit.

Changing Screen Labels

You may want to change the names of the Resource Categories and the terms used to represent Actual and Authorized (Desired) quantities in each of the five Resource Categories. Both of these changes are made using the Translations window.

To change any FOCIS terminology, click the Translations icon in the toolbar at the top of the FOCIS window. When the Translation window opens, click on the Terminology tab and choose “Unit Data – Resource Categories” using the drop-down selector at the top of the window. The window will then appear as shown in Figure 4-8.

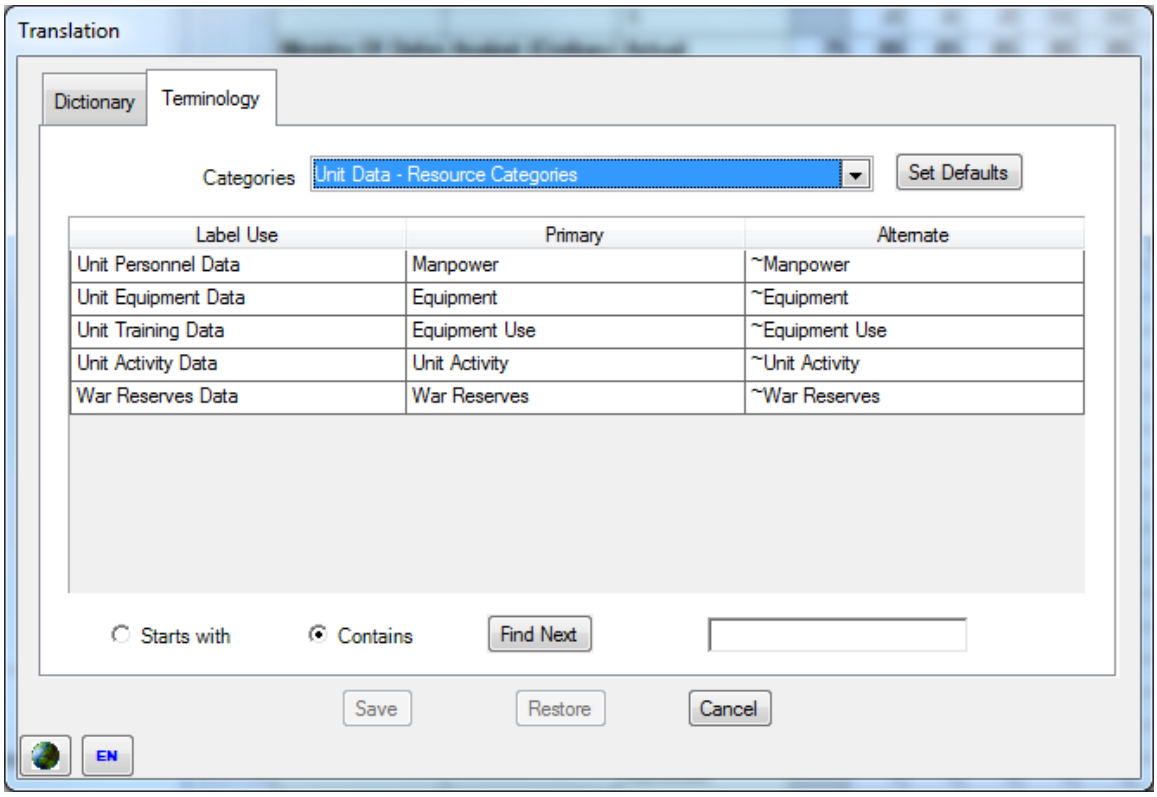


Figure 4-8. Translation Window Showing "Unit Data – Resource Categories" Terms

This window shows a list with three columns. The left column contains a general description of each label. This entry is not editable. The second column shows the labels that will appear on the window when the labels are set for Primary labels (i.e., when the icon shows as), and the third column shows the labels that will appear when the labels are set for Alternate labels (i.e., when the icon shows as).

If a language other than English is desired when entering either a Primary or Alternate label, you can change the active language by clicking the icon showing the current language setting to display all installed languages (Figure 4-9). FOCIS supports text entry in any text object with any installed language or even a combination of languages in a single text entry.

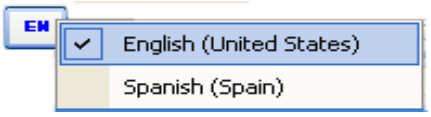


Figure 4-9. List of Installed Languages

To edit the terms used to represent Actual and Authorized quantities for each of the five resource categories, select "Unit Data – Data Types" using the drop-down selector at the top of the window as shown in Figure 4-10.

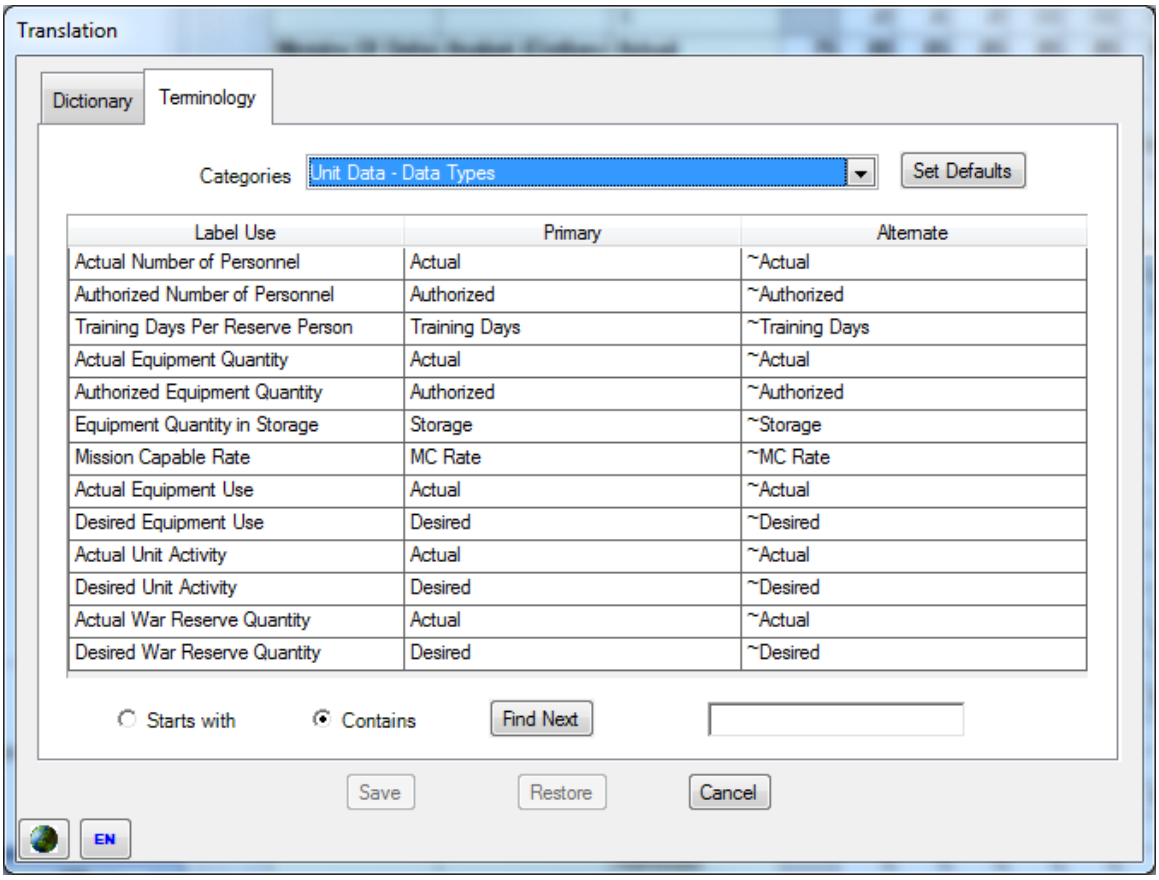


Figure 4-10. Terminology Tab Showing "Unit Data – Data Types" Terms

You can change any of the default terms used with any of the five Resource Categories to match local preferences.

Note: If you change one instance of "Actual" as a Primary label, all uses of Actual as a Primary label must have the same Alternate label. FOCIS will show a warning message if this rule is not used.

Customizing Unit Resource Data Display

FOCIS stores both Actual and Authorized amounts for all Unit Resources. Users can choose to customize the display of these data in one of several formats by clicking the icon in the lower left corner of the Single Unit Display frame (Figure 4-11).

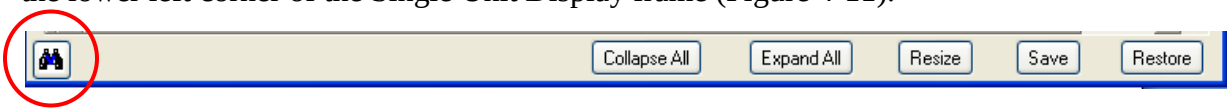


Figure 4-11. Display Options Icon on Unit Resource Data Display

Clicking the icon offers four options, as shown in Figure 4-12. The currently selected option is identified by a check mark.

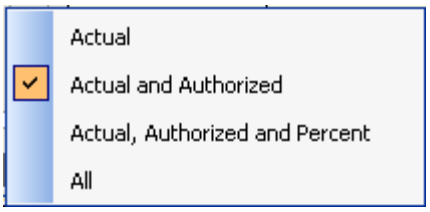


Figure 4-12. Display Options

- The first option, **Actual**, will display only Resources with an Actual value greater than zero in at least one year. Training Days for Reserve Personnel are also displayed. When the customized view is set to **Actual,** the display appears as shown in Figure 4-13.

1st Corps HQ

			2005	2006	2007	2008	2009	2010	2011	2012
Land Forces	**Company Grade Officer (Reserve/Regular)**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Training Days		0	0	0	0	0	0	0
Land Forces	**Conscript (Reserve/Regular)**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Training Days		0	0	0	0	0	0	0
Equipment										
			2005	2006	2007	2008	2009	2010	2011	2012
Cargo & Passen	**Light Truck**	**Actual**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Figure 4-13. Actual Display

- The second option, **Actual and Authorized**, will display Resources with at least one Actual or one Authorized data value greater than zero. Training Days for Reserve Personnel are also displayed. When the customized view is set to **Actual and Authorized**, the display appears as shown in Figure 4-14.

1st Corps HQ

			2005	2006	2007	2008	2009	2010	2011	2012
Land Forces	**Company Grade Officer (Reserve/Regular)**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
Land Forces	**Conscript (Reserve/Regular)**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
Equipment										
			2005	2006	2007	2008	2009	2010	2011	2012
Cargo & Passen	**Light Truck**	**Actual**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
		Authorized		10	10	10	10	10	10	10

Figure 4-14. Actual and Authorized Display

- The third option, **Actual, Authorized and Percent**, displays only Resources with at least one Actual or one Authorized data value greater than zero, and the display will add a row with the percentage that Actual is of the Authorized amount. You can then use the Percent entries to modify Actual values (described in the "Working with Percentage Data" section of this chapter on page 4-12). When the value of Authorized is zero (0), the Percent will show as zero (0). Training Days for Reserve Personnel are

also displayed. When the customized view is set to **Actual, Authorized and Percent**, the display appears as shown in Figure 4-15.

1st Corps HQ

			2005	2006	2007	2008	2009	2010	2011	2012
Land Forces	**Company Grade Offi**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
		Σ		*80*	*80*	*80*	*80*	*90*	*90*	*90*
Land Forces	**Conscript (Reserve/**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
		Σ		*80*	*80*	*80*	*80*	*90*	*90*	*90*

Equipment

			2005	2006	2007	2008	2009	2010	2011	2012
Cargo & Passeng	**Light Truck**	**Actual**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
		Authorized		10	10	10	10	10	10	10
		Σ		*100*	*100*	*100*	*100*	*100*	*100*	*100*

Figure 4-15. Actual, Authorized and Percent Display

- The fourth option, **All**, displays Actual, Authorized, Percent, and Equipment Items in Storage. When the customized view is set to **All**, the display appears as shown in Figure 4-16.

1st Corps HQ

			2005	2006	2007	2008	2009	2010	2011	2012
Land Forces	**Company Grade Offi**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
		Σ		*80*	*80*	*80*	*80*	*90*	*90*	*90*
Land Forces	**Conscript (Reserve/**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100
		Training Days		0	0	0	0	0	0	0
		Σ		*80*	*80*	*80*	*80*	*90*	*90*	*90*

Equipment

			2005	2006	2007	2008	2009	2010	2011	2012
Cargo & Passeng	**Light Truck**	**Actual**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
		Authorized		10	10	10	10	10	10	10
		Storage		0	0	0	0	0	0	0
		Σ		*100*	*100*	*100*	*100*	*100*	*100*	*100*

Figure 4-16. All (Actual, Authorized, Percent and Equipment) Display

Note: Choosing to set one of these modes as the default will cause the FOCIS Single Unit Display to remember your selected format any time you log in to FOCIS.

Working with Percentage Data

When the Percent data are shown, the Percent value will be updated whenever the Actual or Authorized value is changed, according to the formula:

$$Percent_y = Actual_y / Authorized_y$$

where **y** is the year.

When a Percent is changed, the value of Actual will change, according to the formula:

$$Actual_y = Percent_y \times Authorized_y$$

where **y** is the year.

When the Percent value is changed, the Actual value is revised to show the closest resulting integer value (whole number) from multiplying the Percent by the Authorized value. If the result of the calculation is not an exact integer, the Percent is recalculated using the new, integer Actual value. This can cause the Percent value displayed to change from the Percent value entered when there are small numbers involved.

As an example of this behavior, in Figure 4-17, the user changed the percentage in 2007 to 50%.

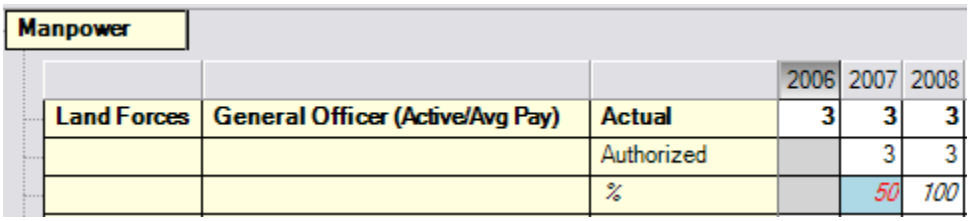


Figure 4-17. Percent Changed by User to 50%

As soon as the user saves the new entry or moves to another place in the display, FOCIS calculates the new Actual value as **1.5** (i.e., 50% of 3) and then rounds this to **2** because Manpower quantities must always be integer values. Next, FOCIS resets the Percent value to match the relationship of the new Actual and Authorized values, causing the Percent to change to 67% as shown in Figure 4-18.

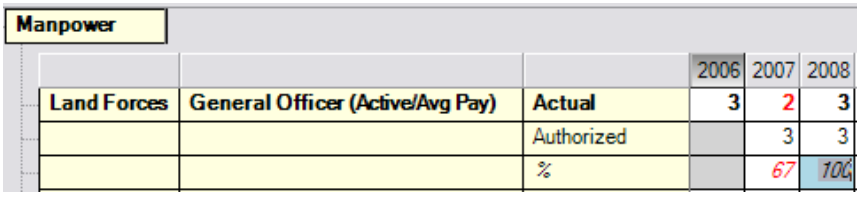


Figure 4-18. FOCIS Recalculation to 67%

Changing Column Widths

You can adjust the width of any column by placing the cursor on the dividing line separating two columns (changes to ⇿), holding down the left mouse button, and dragging the mouse left or right. The example shown in Figure 4-19 shows where you would place the cursor to change the width of the Equipment Name or the 2007 column.

Figure 4-19. Cursor Showing Column Divider

Viewing Partially Hidden Labels or Values

As you scroll up and down to work with different data in different Resource Categories, sometimes the column widths need to be adjusted because the numeric values for one type of data are a different size (e.g., 10 officers versus 10,000 kilometers). You can cause the column widths for the year data only to be reset to an optimized size by clicking the **Resize** button at the bottom of the screen (Figure 4-20). **Resize** considers only the data visible in the display when it is clicked and sets the column widths to match the widest values in each column.

Figure 4-20. Resize Button

When the full name in any label in the first two columns is not visible, moving the cursor over the label will cause the full name to be displayed in a pop-up label as shown in Figure 4-21 with “General Officer (Active/Avg Pay).”

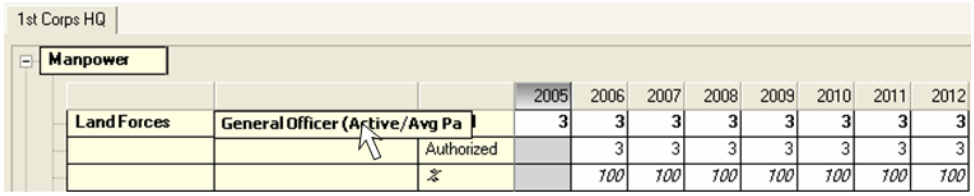


Figure 4-21. Pop-Up of Full Cell Contents

The width of the Unit Organization and Unit Resource data areas can be changed to suit user needs in different situations. To change the size, move the cursor until it changes to the shape shown in Figure 4-22, hold down the left mouse button, and drag the edge of the frame left or right. This width will remain as you change Work Areas and will be remembered the next time you log in to FOCIS.

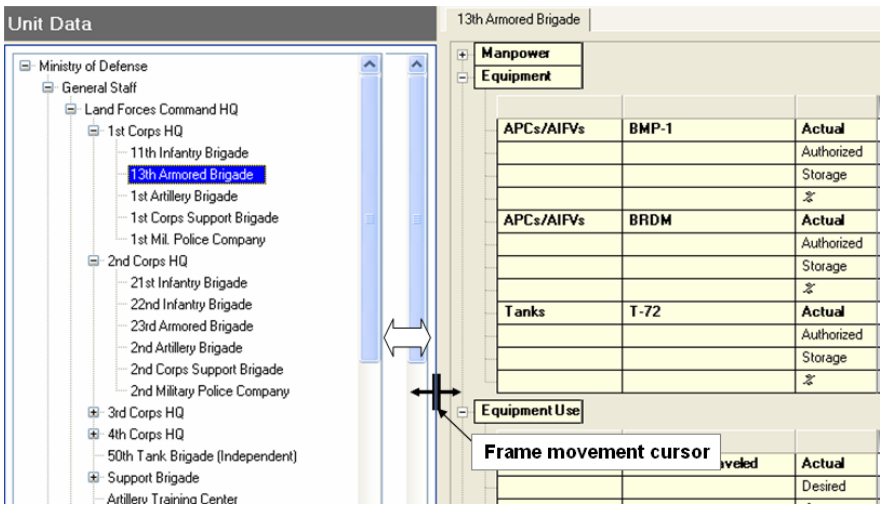


Figure 4-22. Frame Movement Cursor

Working With One Resource Type at a Time

Often you may want to work with only one type of Resource, such as Equipment, but every time you choose a new Unit, the right-hand display resets to show all of the Personnel data, forcing the Equipment inventory data below the bottom of the display.

One way to solve this problem is to collapse all of the Resources Categories and then expand only the one Resource Category you want to work with (e.g., Equipment, as shown in Figure 4-23). With the display set this way, only the expanded Resource Category data will show as you change Units.

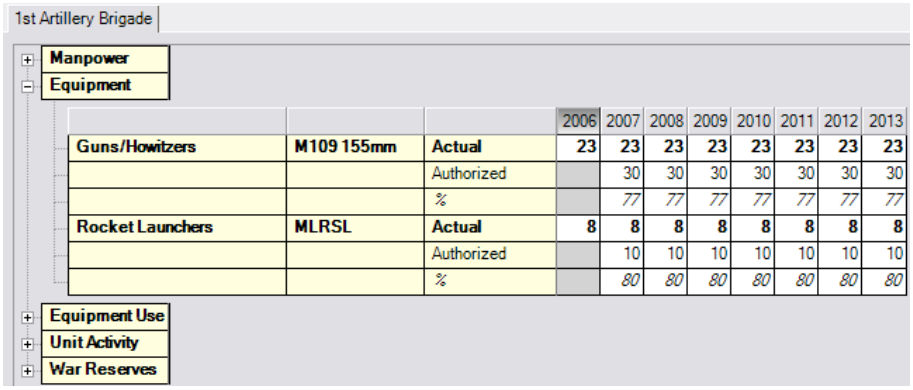


Figure 4-23. Display of Expanded Resource Category

Single Unit Display

Single Unit Display Overview

The primary window for working with Unit Resources is the Single Unit Display, shown in Figure 4-24. This display appears by default each time the Unit Data Work Area is opened, and displays all five Resource Categories for the Unit selected in the organization tree on the left.

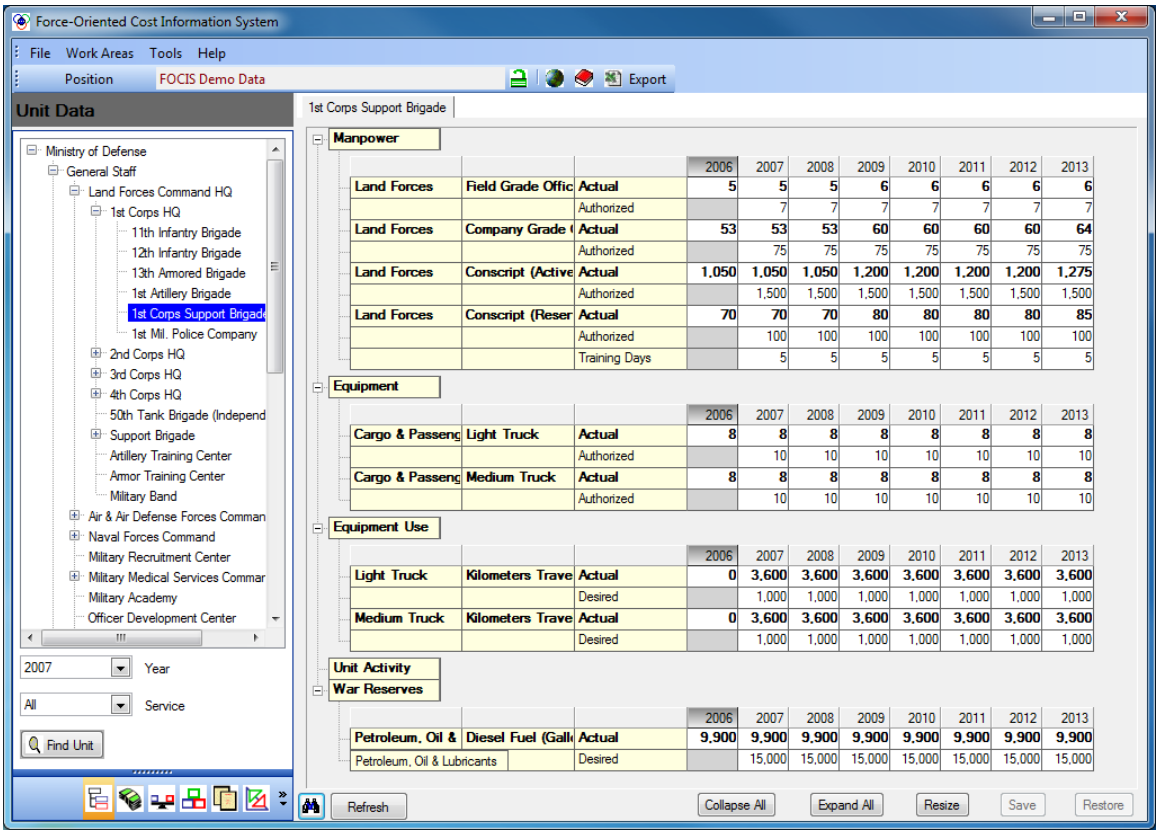
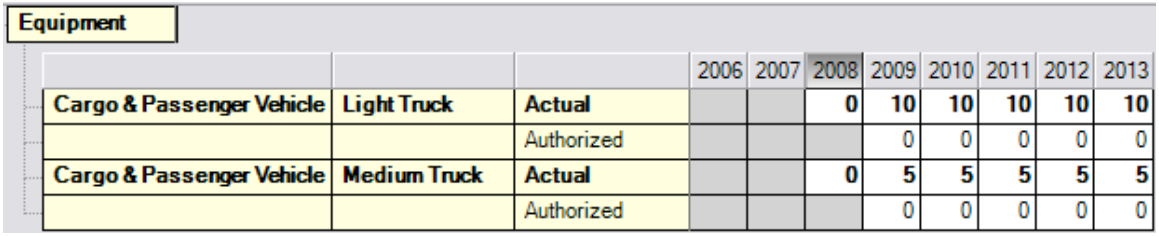


Figure 4-24. Single Unit Display

This display shows Unit Resource data for all years that a Unit exists. It also includes a column that shows the data for the year prior to its first year of existence in the database. These prior-year data are used in cost calculations that use the average quantity in a year or the change from one year to the next. In the “prior year” column, only Actual data are displayed.

If the Unit selected does not exist until a year after the first year in the database, the display will look something like Figure 4-25. In this case, the Unit was created in 2009. In situations where a Unit is created in some year after the first year in the database (i.e., the first year of the top Unit), it is important to pay attention to the entries in the “prior” year (e.g., 2008 in Figure 4-25). In almost all situations, when a Unit is first created in some year during the overall time span, the values in the prior year should be zero (0) because their assets are either being newly acquired or come from some other Unit. If they are truly being created in one of these years, they did not have resources of their own in the prior year.



			2006	2007	2008	2009	2010	2011	2012	2013
Cargo & Passenger Vehicle	**Light Truck**	**Actual**			**0**	**10**	**10**	**10**	**10**	**10**
		Authorized				0	0	0	0	0
Cargo & Passenger Vehicle	**Medium Truck**	**Actual**			**0**	**5**	**5**	**5**	**5**	**5**
		Authorized				0	0	0	0	0

Figure 4-25. Prior Year Data

The details in each Resource Category can be expanded or collapsed using the ⊞ or ⊟ icons to the left of each category header. All Categories can be expanded or collapsed at one time by using the **Collapse All** or **Expand All** buttons at the bottom of the window, as shown in Figure 4-26.

Figure 4-26. Button Row at Bottom of Window

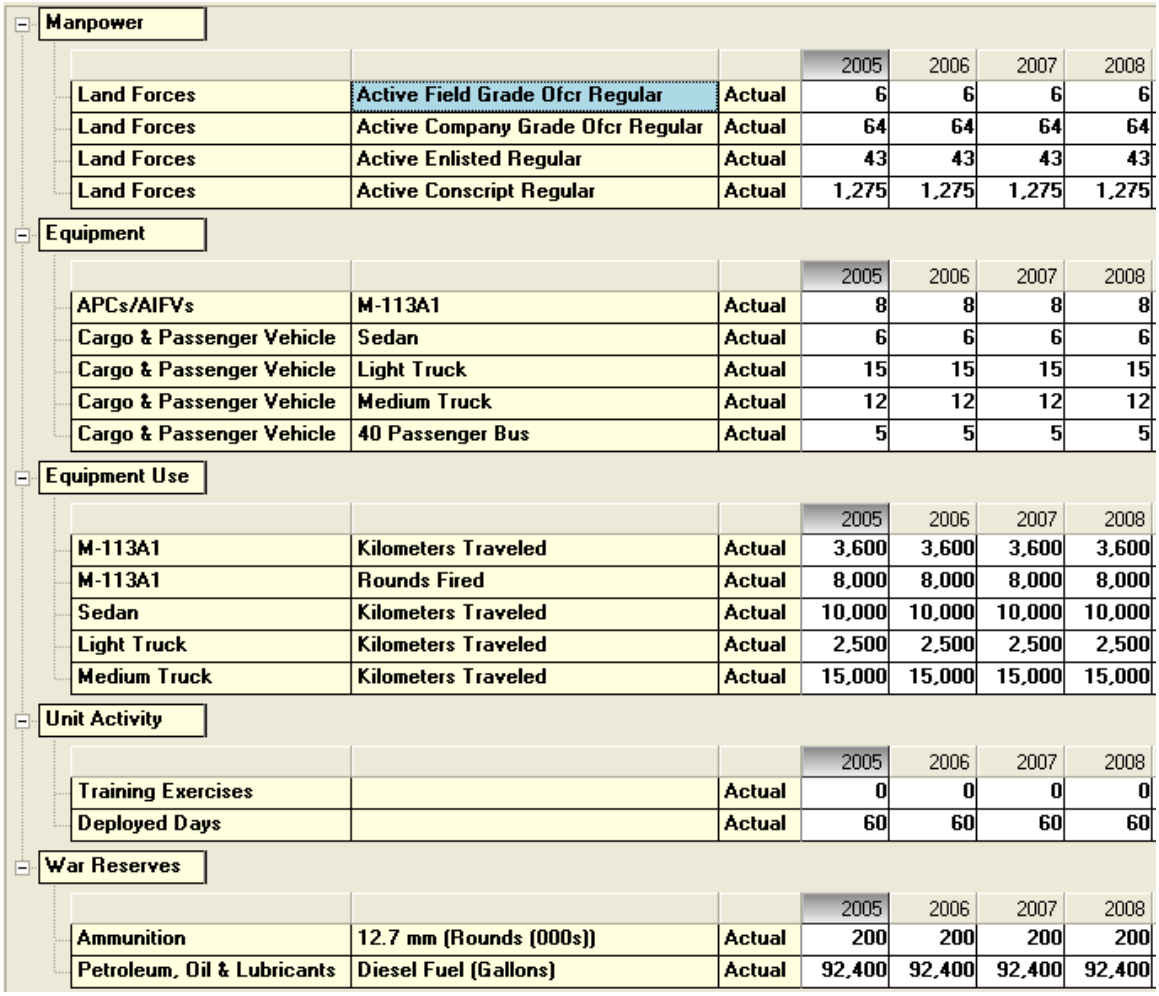
While in the Single Unit Display, you can add new Resources to the selected Unit, edit existing Resource data, or delete a Resource. You can also copy Resource data from one Unit to another or export the data to an Excel spreadsheet to share with others for validation or to get corrections. Detailed instructions for using this display are provided in this chapter.

Instructions for working with the Unit Organization (left pane of the Unit Data Work Area window) are in Chapter 3, Unit Organization Structure Data.

The data shown in the first two columns of the Single Unit Display have different characteristics for each Resource Category as shown in Table 4-1 and Figure 4-27.

Table 4-1. Characteristics for Each Resource Category

Resource Category	Column #1	Column #2
Manpower	Budgeting Service	Personnel Type
Equipment	Equipment Category	Equipment Item
Equipment Use	Equipment Item	Metric
Unit Activity	Metric	(Not Used)
War Reserves	WRM Category	WRM Item



Manpower

			2005	2006	2007	2008
Land Forces	Active Field Grade Ofcr Regular	Actual	6	6	6	6
Land Forces	Active Company Grade Ofcr Regular	Actual	64	64	64	64
Land Forces	Active Enlisted Regular	Actual	43	43	43	43
Land Forces	Active Conscript Regular	Actual	1,275	1,275	1,275	1,275

Equipment

			2005	2006	2007	2008
APCs/AIFVs	M-113A1	Actual	8	8	8	8
Cargo & Passenger Vehicle	Sedan	Actual	6	6	6	6
Cargo & Passenger Vehicle	Light Truck	Actual	15	15	15	15
Cargo & Passenger Vehicle	Medium Truck	Actual	12	12	12	12
Cargo & Passenger Vehicle	40 Passenger Bus	Actual	5	5	5	5

Equipment Use

			2005	2006	2007	2008
M-113A1	Kilometers Traveled	Actual	3,600	3,600	3,600	3,600
M-113A1	Rounds Fired	Actual	8,000	8,000	8,000	8,000
Sedan	Kilometers Traveled	Actual	10,000	10,000	10,000	10,000
Light Truck	Kilometers Traveled	Actual	2,500	2,500	2,500	2,500
Medium Truck	Kilometers Traveled	Actual	15,000	15,000	15,000	15,000

Unit Activity

			2005	2006	2007	2008
Training Exercises		Actual	0	0	0	0
Deployed Days		Actual	60	60	60	60

War Reserves

			2005	2006	2007	2008
Ammunition	12.7 mm (Rounds (000s))	Actual	200	200	200	200
Petroleum, Oil & Lubricants	Diesel Fuel (Gallons)	Actual	92,400	92,400	92,400	92,400

Figure 4-27. Fully Expanded Single Unit Display

Editing Values

The values of any of the displayed data can be changed by placing the cursor in the cell (clicking in the cell) where the change is to be made and retyping the number. The cursor can be moved using the mouse or the **Tab** key. The arrow keys move the cursor within the selected cell. When a value is changed, it is displayed in red. When you are satisfied with your entries, click the **Save** button. If, before saving the changed entry, you decide not to change the value, click the **Restore** button at the bottom of the display.

Shortcut Menus

Each Resource Category offers identical options through the editing shortcut menu options, shown in Figure 4-28.

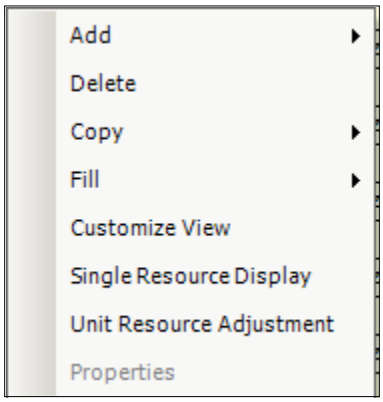


Figure 4-28. Editing Shortcut Menu Options

To add new rows in a Resource, right-click in that portion of the display, including clicking on the Category headers when there are no existing entries. For example, if you want to add a new row in the Manpower Resources, right-click in the Manpower portion of the display. A complete description of the **Add** function is provided in the "Add Resource Function" section of this chapter on page 4-20.

To delete one or more entries, right-click anywhere in the Resource Category's data or on its header label and then click **Delete**. A complete description of the **Delete** function is provided in the "Delete Resource Function" section of this chapter on page 4-29. An entry in any Resource Category can also be removed by setting the value to zero (0) and clicking the **Save** button.

FOCIS allows you to copy Resource data between Units that already exist in the organization tree display. To copy Resources, select either the Unit you want to copy from (the source Unit) or the Unit you want to copy to (the target Unit) on the left side, then right-click anywhere on the right side and click **Copy**. A complete description of the **Copy** function is provided in the "Copy Resource Function" section of this chapter on page 4-31.

When you select the **Fill** option, you must also choose a sub-option, as shown in Figure 4-29. After entering a value in a cell, you can use one of these options to copy the data to all following (Right) or preceding (Left) years. The combination of holding down the **Ctrl** key and "**R**" will also fill to the right (**Ctrl+R)**.

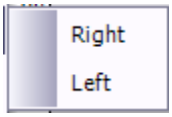


Figure 4-29. Fill Options

The **Customize View** menu item is described in the "Customizing Unit Resource Data Display" section of this chapter on page 4-10. The **Single Resource Display** menu item is described in the "Single Resource Display" section of this chapter on page 4-36. The **Unit Resource Adjustment** menu item is described in the "Unit Resource Adjustments" section of this chapter on page 4-44.

The **Properties** menu item is enabled whenever you right-click in a cell with data (not a Percent cell). When you select **Properties**, FOCIS displays the user name of the person who made the entry or last change along with the date and time the change was made.

The following sections describe how to use the **Add**, **Delete**, and **Copy** functions.

Add Resource Function

When the **Add** option is selected from the shortcut menu, a sub-menu is shown, whose content depends on the Resource Category that is selected. The windows that appear with each Resource Category are described below.

Each sub-menu offers a choice labeled **Typical**. If data of the selected Resource Type have been previously entered for one or more Units, selecting **Typical** will create data entry rows for similar data types (e.g., Personnel Types, Equipment Names, WRM Items, etc.). The values in each row are pre-set to zero (0). You can enter values on each line that applies to the currently selected Unit. If there are rows that do not apply to the selected Unit, leave the cell values as zeros (0s) and click the **Save** button after the other values are entered. When **Save** is clicked, entries where the Actual and Authorized values are all zeros will be removed. The logic that applies to each Resource-specific **Add** option is described within the corresponding section below.

Add Manpower

Two sub-options are offered when **Add** is clicked in the Manpower category of Unit Resources. They are **Typical** and **Manpower**, as shown in Figure 4-30.

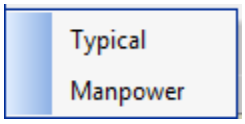


Figure 4-30. Add Manpower Sub-options

If **Typical** is chosen, new rows are entered for every combination of Personnel Type and Budgeting Service that has previously been entered for Units that have the same Command Level and Service as the currently selected Unit.

For example, assume that Manpower data have been previously entered for other Land Force Units with the following Personnel Types, all with Budgeting Service "Land Forces," and in Units whose Command Level is Brigade:

- Field Grade Officer (Active/Avg Pay)
- Company Grade Officer (Active/Regular)
- Enlisted (Active/Regular)
- Conscript (Active/Regular)
- Conscript (Reserve/Regular)

If the **Typical** option is selected from the **Add** menu when adding Manpower to another Land Force Unit with a Command Level of Brigade, new rows will be created, as shown in Figure 4-31.

Manpower

			2006	2007	2008	2009	2010	2011	2012	2013
Land Forces	Field Grade Officer (Active/Avg Pay)	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Land Forces	Company Grade Officer (Active/Regular)	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Land Forces	Enlisted (Active/Regular)	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Land Forces	Conscript (Active/Regular)	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Land Forces	Conscript (Reserve/Regular)	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
		Training Days		0	0	0	0	0	0	0

Figure 4-31. New Rows Created with "Typical" Option

If there are already entries in this Unit for any of these combinations of Personnel Type and Budgeting Service, these entries will be left in the display with their values unchanged.

Using **Typical** to add Manpower data can speed up initial data entry.

If no data have been previously entered from which **Typical** Manpower entries can be created, or if you want to select other combinations of Personnel Type and Budgeting Service, select the **Manpower** sub-option. When you do this, the Add Unit Data window (Figure 4-32) opens.

This display initially lists all Personnel Types that have not already been used with the currently selected Unit, and the default Budgeting Service is set to the Service or Agency of the selected Unit.

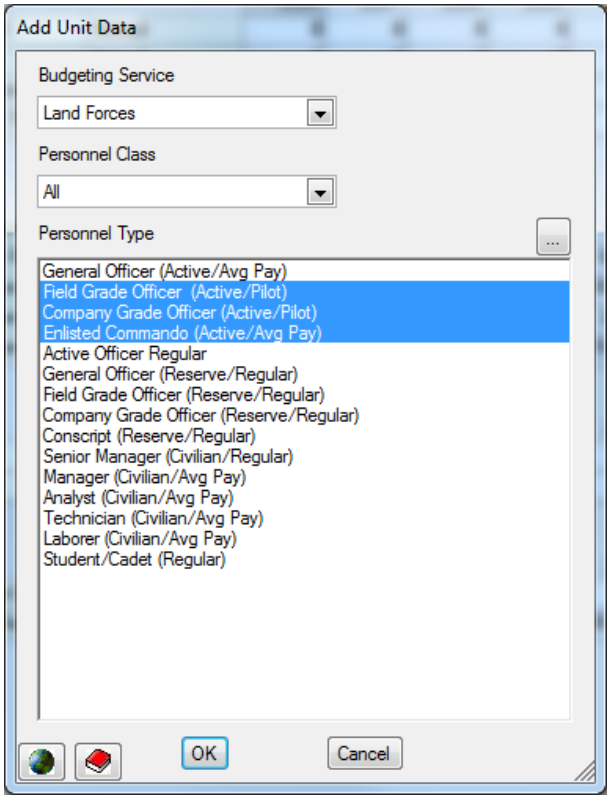


Figure 4-32. Add Unit Data (Manpower) Window

You can use the Add Unit Data window to add Personnel Types using any of the following techniques:

- To select a single new Personnel Type, click that one choice.
- To select several new types that appear next to each other in the list, select the first item you want to include by clicking on it. Then, while holding down the **Shift** key, click the last item you want to include (**Shift**+click).

- To select several new types that do not all appear next to each other in the list, hold down the **Ctrl** key and click each item you want to include (**Ctrl**+click).
- If you have used either method to select multiple items and you want to remove one of the selected items from the list, hold down the **Ctrl** key and simply click on the item you want to remove (**Ctrl**+click).

When you are satisfied with your selections, click the **OK** button.

If the Personnel Type you want to add has not yet been created, you can open the Personnel Setup window by clicking the icon. Once open, you can add new Personnel Types, save them, and return directly to the list of Personnel Types.

Add Equipment

Two sub-options are offered when **Add** is clicked in the Equipment category of Unit Resources. They are **Typical** and **Equipment**, as shown in Figure 4-33.

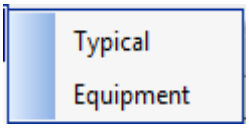


Figure 4-33. Add Equipment Sub-options

If **Typical** is chosen, new rows are entered for every Equipment Item that has previously been entered for Units of the same Command Level and Service as the currently selected Unit.

For example, assume that the following Equipment data have been previously entered for other Land Force Units whose Command Level is Brigade:

- Bradley Fighting Vehicle
- BMP-1
- M-113A1
- Sedan
- Light Truck
- Medium Truck

If the **Typical** option is selected from the **Add** menu when adding Equipment to another Land Force Unit with a Command Level of Brigade, new rows will be created, as shown in Figure 4-34.

Equipment

			2006	2007	2008	2009	2010	2011	2012	2013
APCs/AIFVs	Bradley Fighting Vehicle	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
APCs/AIFVs	BMP-1	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
APCs/AIFVs	M-113A1	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Cargo & Passenger Vehicle	Sedan	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Cargo & Passenger Vehicle	Light Truck	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0
Cargo & Passenger Vehicle	Medium Truck	Actual	0	0	0	0	0	0	0	0
		Authorized		0	0	0	0	0	0	0

Figure 4-34. New Rows Created with "Typical" Option

If there are already entries for any of these Equipment Items, these entries will be left in the display with their values unchanged.

Using **Typical** to add Equipment data can speed up initial data entry.

If no data have been entered previously from which a list of Typical Equipment Names can be created, or if you want to select an Equipment Item that has not yet been used, select the **Equipment** sub-option. When you do this, the Add Unit Data window (Figure 4-35) opens.

This display initially lists all Equipment Items that have not already been used with the currently selected Unit. You can reduce the number of items displayed at one time by using the Categories selector at the top to choose an Equipment Category.

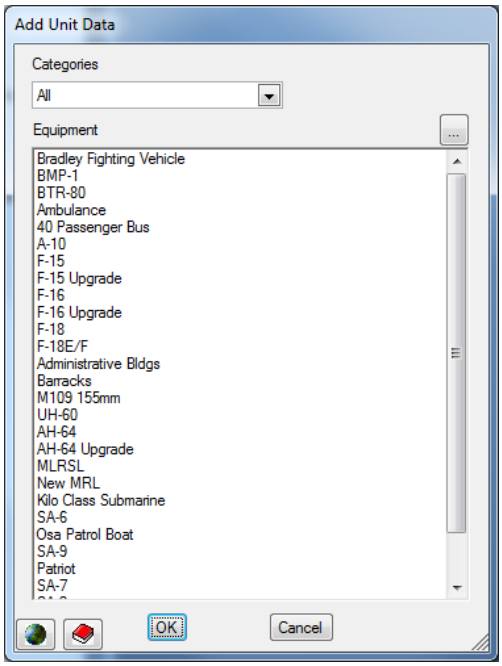


Figure 4-35. Add Unit Data (Equipment) Window

You can use the Add Unit Data window to add Equipment Items using any of the following techniques.

- To select a single new item, click that one choice.
- To select several new items that appear next to each other in the list, select the first item you want to include by clicking on it. Then, while holding down the **Shift** key, click the last item you want to include (**Shift**+click).

- To select several new items that do not all appear next to each other in the list, hold down the **Ctrl** key and click each item you want to include (**Ctrl**+click).
- If you have used either method to select multiple items and you want to remove one of the selected items from the list, hold down the **Ctrl** key and simply click on the item you want to remove (**Ctrl**+click).

When you are satisfied with your selections, click the **OK** button.

If the Equipment Item you want to add has not yet been created, you can open the Equipment Setup window by clicking the icon. Once open, you can add new Equipment Items, save them, and return directly to the list of Equipment Items.

Add Equipment Use

Two sub-options are offered when **Add** is clicked in the Equipment Use category of Unit Resources. They are **Typical** and **Equipment - Metric** (i.e., a combination of Equipment Items and Metrics), as shown in Figure 4-36.

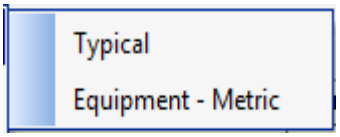


Figure 4-36. Add Equipment Use Sub-options

If **Typical** is chosen, new rows are entered for the Metrics that have been used with each Equipment Item that has previously been entered for the currently selected Unit (Equipment Use can only be added for Equipment in the Unit).

For example, assume that the following Equipment data have been previously entered:

- Light Trucks
- Medium Trucks

If the **Typical** option is selected from the **Add** menu when adding Equipment Use data, new rows will be created, as shown in Figure 4-37.

Equipment Use

			2006	2007	2008	2009	2010	2011	2012	2013
Light Truck	**Kilometers Trave**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0
Medium Truck	**Kilometers Trave**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0

Figure 4-37. New Rows Created with "Typical" Option

If there are already entries for any of these combinations of Equipment Items and Metrics, these entries will be left in the display with their values unchanged.

Using **Typical** to add Equipment Use data can speed up initial data entry.

If no data have been entered previously from which a list of Typical Equipment Item and Metric combinations can be created, or if you want to select an Equipment Item – Metric combination that has not yet been used, select the **Equipment - Metric** sub-option. When you do this, the Add window (Figure 4-38) opens.

This display initially lists all Equipment Items in the unit and all Metrics that have been defined for those Equipment Items.

If the Metrics you want to use for the Equipment Items in this unit have not yet been created, open the Metrics Setup window by clicking the ... icon. Once open, you can add new Metrics, save them, and return directly to this window.

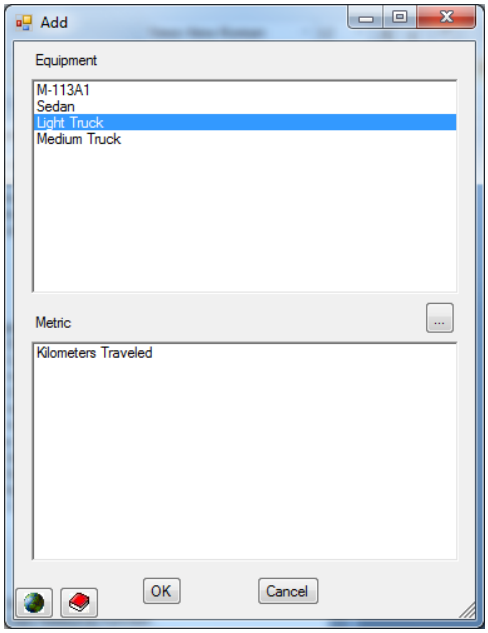


Figure 4-38. Add (Equipment Use) Window

You can use the Add window to select Equipment Items and Metrics using any of the following techniques.

- To select a single new item in the Equipment or Metric list, click that one choice. You can use this technique in either or both lists.
- To select several new items in the Equipment or Metric list that appear next to each other in the list, select the first item you want to include by clicking on it within the appropriate list. Then, while holding down the **Shift** key, click the last item you want to include from that same list (**Shift**+click). You can use this technique in either or both lists.
- To select several new items in the Equipment or Metric list that do not all appear next to each other in the list, hold down the **Ctrl** key and click each item you want to include (**Ctrl**+click). You can use this technique in either or both lists.
- If you have used either method to select multiple items and you want to remove one of the items from your selection, hold down the **Ctrl** key and simply click on the item you want to remove (**Ctrl**+click). You can use this technique in either or both lists.

When you are satisfied with your selections, click the **OK** button.

Add Unit Activity

Two sub-options are offered when **Add** is clicked in the Unit Activity category of Unit Resources. They are **Typical** and **Unit Activity**.

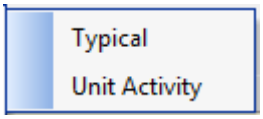


Figure 4-39. Add Unit Activity Sub-options

If **Typical** is chosen, new rows are entered for the Activity Metrics that have been used with other Units of the same Command Level and Service as the currently selected Unit.

For example, assume that the following Unit Activity Metrics have been previously entered for other Land Force Units whose Command Level is Brigade:

- Firing Exercises
- Training Exercises
- Deployed Days

If the **Typical** option is selected from the **Add** menu when adding Unit Activity Metrics to another Land Force Unit with a Command Level of Brigade, new rows will be created, as shown in Figure 4-40.

Unit Activity

			2006	2007	2008	2009	2010	2011	2012	2013
Firing Exercises		**Actual**	0	0	0	0	0	0	0	0
		Desired		0	0	0	0	0	0	0
Training Exercises		**Actual**	0	0	0	0	0	0	0	0
		Desired		0	0	0	0	0	0	0
Deployed Days		**Actual**	0	0	0	0	0	0	0	0
		Desired		0	0	0	0	0	0	0

Figure 4-40. New Rows Created with "Typical" Option

If there are already entries for any of these Activity Metrics, these entries will be left in the display with their values unchanged. Using **Typical** to add Unit Activity data can speed up initial data entry.

If no data have been entered previously from which a list of Typical Activity Metrics can be created, or if you want to select a Metric that has not yet been used, select the **Unit Activity** sub-option. When you do this, the Add Unit Data window (Figure 4-41) opens.

This display initially lists all Metrics that have been created where the Unit Activity usage was checked. If the Metric you want to add does not appear in this list, open the Metrics Setup window by clicking the ... icon. Once open, you can add new Metrics or set the usage of existing Metrics to include Unit Activity. After you save the change, you will return directly to this window.

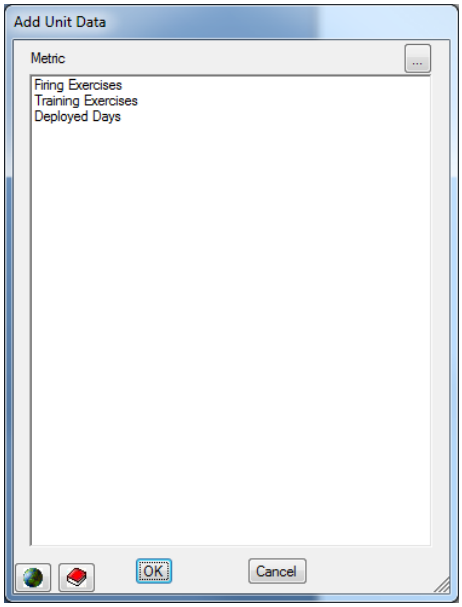


Figure 4-41. Add Unit Data (Unit Activity) Window

You can use the Add Unit Data window to select Metrics using any of the following techniques.

- To select a single Metric, click that choice.
- To select several new Metrics that appear next to each other in the list, select the first item you want to include by clicking on it. Then, while holding down the **Shift** key, click the last item you want to include (**Shift**+click).
- To select several new Metrics that do not all appear next to each other in the list, hold down the **Ctrl** key and click each item you want to include (**Ctrl**+click).
- If you have used either method to select multiple items and you want to remove one of the items from your selection, hold down the **Ctrl** key and simply click on the item you want to remove.

When you are satisfied with your selections, click the **OK** button.

Add War Reserve Material (WRM)

Two sub-options are offered when **Add** is clicked in the War Reserves category of Unit Resources. They are **Typical** and **War Reserves**.

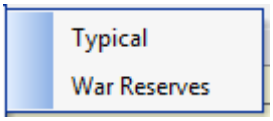


Figure 4-42. Add War Reserves Sub-options

If **Typical** is chosen, new rows are entered for every WRM Item that has previously been entered for other Units of the same Command Level and Service as the currently selected Unit.

For example, assume that the following WRM data have been previously entered for other Land Force Units whose Command Level is Brigade:

- 122 mm rockets
- 125 mm ammunition
- 12.7 mm ammunition
- Diesel fuel

If the **Typical** option is selected from the **Add** menu when adding WRM Items to another Land Force Unit with a Command Level of Brigade, new rows will be created, as shown in Figure 4-43.

War Reserves

			2006	2007	2008	2009	2010	2011	2012	2013
Ammunition	**122 MM Rockets (Rockets)**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0
Ammunition	**125mm (Rounds (000s))**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0
Ammunition	**12.7 mm (Rounds (000s))**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0
Petroleum, Oil & Lubricants	**Diesel Fuel (Gallons)**	**Actual**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Desired		0	0	0	0	0	0	0

Figure 4-43. New Rows Created with "Typical" Option

If there are already entries for any WRM Items, these entries will be left in the display with their values unchanged.

Using **Typical** to add WRM data can speed up initial data entry.

If no data has been entered previously from which a list of Typical WRM Items can be created, or if you want to select a WRM Item that has not yet been used, select the **War Reserves** sub-option. When you do this, the Add Unit Data window (Figure 4-44) opens.

This display initially lists all WRM Items that have not already been used with the currently selected Unit. You can reduce the number of items displayed at one time by using the Categories selector at the top of the window to choose a WRM Category.

If the WRM Item you want to add does not appear in this list, open the WRM Setup window by clicking the icon. Once open, you can add new WRM Items, save them, and return directly to the list of WRM Items.

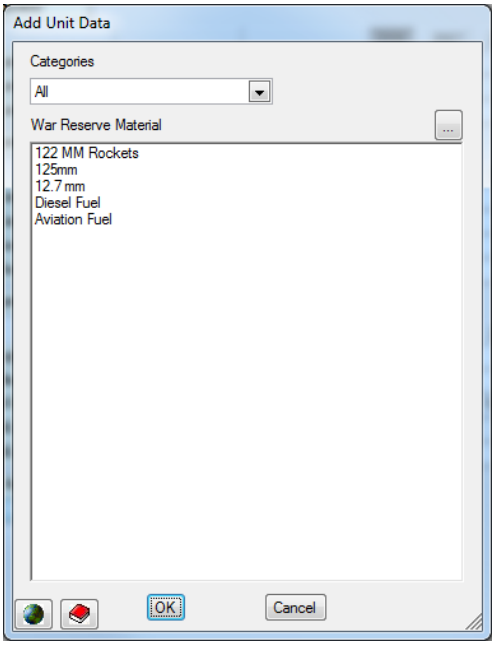


Figure 4-44. Add Unit Data (WRM) Window

You can use the Add Unit Data window to select WRM Items using any of the following techniques:

- To select a single new WRM item, click that choice.
- To select several new WRM items that appear next to each other in the list, select the first item you want to include by clicking on it. Then, while holding down the **Shift** key, click the last item you want to include (**Shift**+click).
- To select several new WRM items that do not all appear next to each other in the list, hold down the **Ctrl** key and click each item you want to include (**Ctrl**+click).
- If you have used either method to select multiple items and you want to remove one of the items from your selection, hold down the **Ctrl** key and simply click on the item you want to remove.

When you are satisfied with your selections, click the **OK** button.

Delete Resource Function

When the **Delete** option is selected from the shortcut menu, a Delete Unit Data window, similar to Figure 4-45, opens that lists all of the items currently entered for the Unit you are working with.

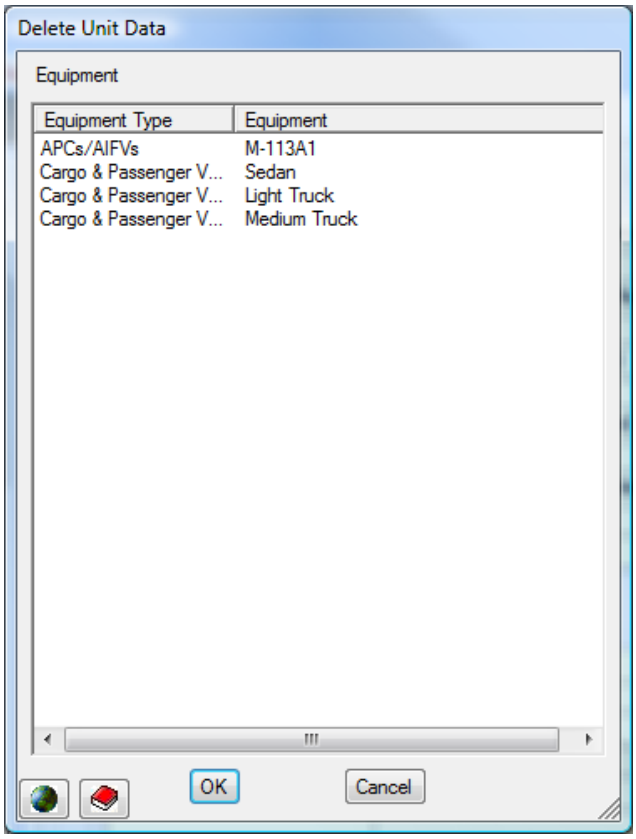


Figure 4-45. Sample Delete Unit Data Window

You can select one or more of those items for deletion using the same techniques you used to select new items to add—click one item, click multiple items with the **Ctrl** key held down, or click first and last of multiple items immediately next to each other with the **Shift** key held down—and then click **OK**.

After clicking **OK**, the entries in all years for the items you chose will be changed to zero (0) and shown in red. If this was not the range of deletions you wanted, click the **Restore** button at the bottom of the window and the last saved values will be returned. If the selections to be deleted are correct, click the **Save** button to confirm the deletions.

Copy Resource Function

FOCIS provides a **Copy** function for Unit Resources that can be used in several alternative ways. When you right-click on the Unit Resource Display and the **Copy** option is selected from the shortcut menu, you will see two choices—**From** and **To**—as shown in Figure 4-46.

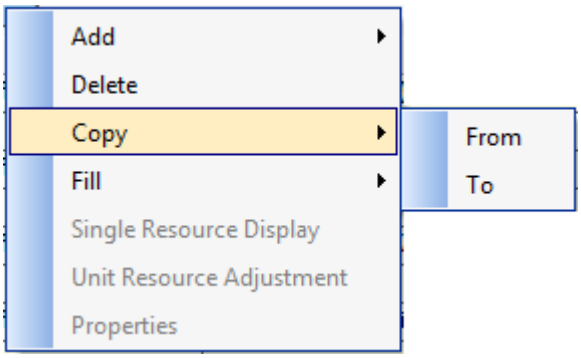


Figure 4-46. Copy Sub-options

When you click **From**, the Unit Resource information from a different Unit than the one you are viewing (the source Unit) will be copied into the currently selected Unit (the target Unit).

When you click **To**, the Unit Resource information in the currently selected Unit (the source Unit) will be copied to another already existing Unit (the target Unit).

Clicking **Copy** while your cursor is on the Unit Resource Display (right side of the window) will not create a new Unit. If you need to create a Unit that does not currently exist in the organization data, click **Copy** while your cursor is on the organization tree (left side of the window) (see Chapter 3, Unit Organization Structure Data).

The windows that open when you click **From** or **To** are nearly identical. When you click **Copy From**, you select a source Unit. When you click **Copy To**, you select a target Unit. All other choices on the window work in the same way, regardless of which window you are using.

The following description of the **Copy** function will discuss the **Copy From** option, but the same procedures apply when using **Copy To**.

The Copy window shown in Figure 4-47 appears when you select **Copy From**. When using the window to **Copy From**, the name of the currently selected Unit is repeated at the top of the form. You select the Unit where the data will be copied from (the source Unit) in the Copy From box at the bottom of the window. The list of Units is initially set to display only Units in the same Service as the currently selected Unit. You can change this by selecting another Service or "All" services by using the Show drop-down arrow in the middle of the window. Data can be copied from or to any Unit.

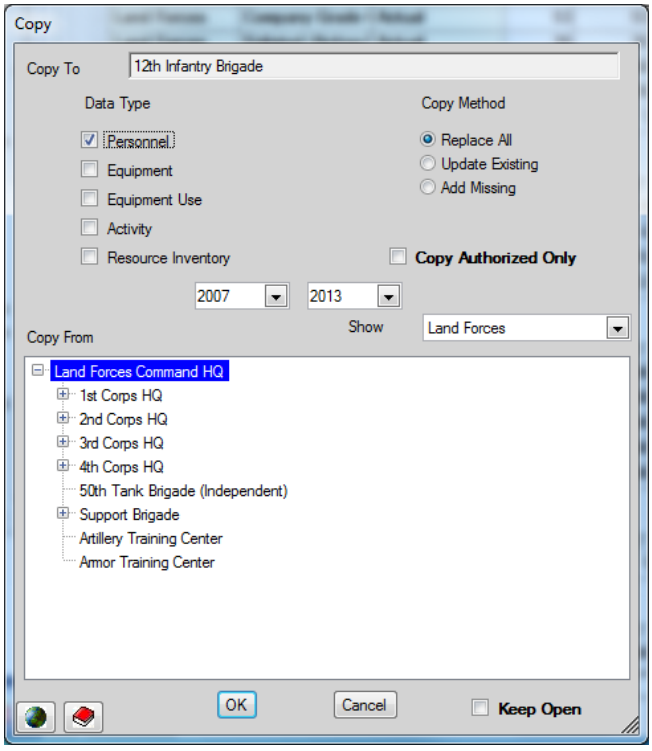


Figure 4-47. Copy/Copy From Window

The upper portion of the window displays a Data Type list, containing the five Resource Categories. By default, the check box is selected for the Resource Category you were pointing to when the right-click was made. You can select or clear any or all of these check boxes. Data will be copied only for those Resource Categories that are checked when you click the **OK** button.

The next step in setting up the **Copy** action is to select the Copy Method. The default method selected is **Replace All**. FOCIS uses different logic for each method. The choices are shown in Figure 4-48.

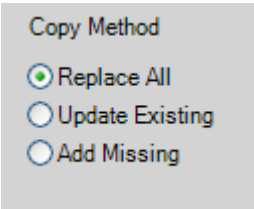


Figure 4-48. Copy Methods

The three Copy Method options are:

- **Replace All**: When this method is chosen, all of the data for the selected Resource Categories and the selected years will be deleted in the target Unit and replaced by data from the source Unit.

- **Update Existing**: When this method is chosen, only data for items in the Copy To and Copy From Units that are identical are replaced. This action only applies for the selected Resource Categories and the selected years (see Figure 4-50).
- **Add Missing**: When this method is chosen, only data for items that exist in the Copy From Unit but not in the Copy To Unit are created. This action only applies for the selected Resource Categories and the selected years (see Figure 4-50).

The window allows you to copy either **All** data (Actual, Authorized, Training Days, and Storage quantities) or **Authorized** data only. To copy only Authorized data, select the Copy Authorized Only check box. This function is especially useful when a new design for some type of Unit (e.g., infantry battalion, helicopter regiment) is approved and you want to apply the newly authorized quantities of Personnel or Equipment to several Units. If you make the changes needed to one Unit, you can then use **Copy To** with the Copy Authorized Only check box selected to copy the new authorizations to multiple Units very quickly. (If you select the Keep Open check box, you can repeat copying the same data to multiple Units as fast as you can select them in the Unit list.)

Immediately above the Copy From box are two drop-down selectors (the start year and the end year) for the year range that will be used when copying Resource data. The year choices will only include years in which both the source Unit and target Unit exist. You can select any start and end year. Data will not be changed in any years outside of this range.

Figure 4-49 and Figure 4-50 use a Unit Equipment example to show how each copy method affects the outcome of the data from Unit A being copied to Unit B. The starting conditions for each set of data (Unit A and Unit B) are shown in Figure 4-49. The results in Unit B of using the three different methods are shown in Figure 4-50. Changes that result from the Copy actions are shown in *red italics*. Unchanged values are in black.

	Starting Conditions			
	Unit A		Unit B	
Item	Actual	Authorized	Actual	Authorized
Tank	10	20	0	0
APC	0	0	25	35
Truck	20	40	15	30

Figure 4-49. Starting Conditions for Unit A and Unit B

		After Copy A to B		
Mode	**Authorized Only** Check Box		Actual	Authorized
Replace All	Not Checked	Tank	***10***	***20***
		APC	***0***	***0***
		Truck	***20***	***40***
	Checked	Tank	0	***20***
		APC	25	***0***
		Truck	15	***40***
Update Existing	Not Checked	Tank	0	0
		APC	25	35
		Truck	***20***	***40***
	Checked	Tank	0	0
		APC	25	35
		Truck	15	***40***
Add Missing	Not Checked	Tank	***10***	***20***
		APC	25	35
		Truck	15	30
	Checked	Tank	0	***20***
		APC	25	35
		Truck	15	30

Figure 4-50. Results in Unit B after Copying Data

Exporting Unit Resource Data

FOCIS provides the ability to export the Resource data for the selected Unit to an Excel spreadsheet by clicking the **Export** button at the top of the window. When you click this button, the Export Options window (Figure 4-51) opens.

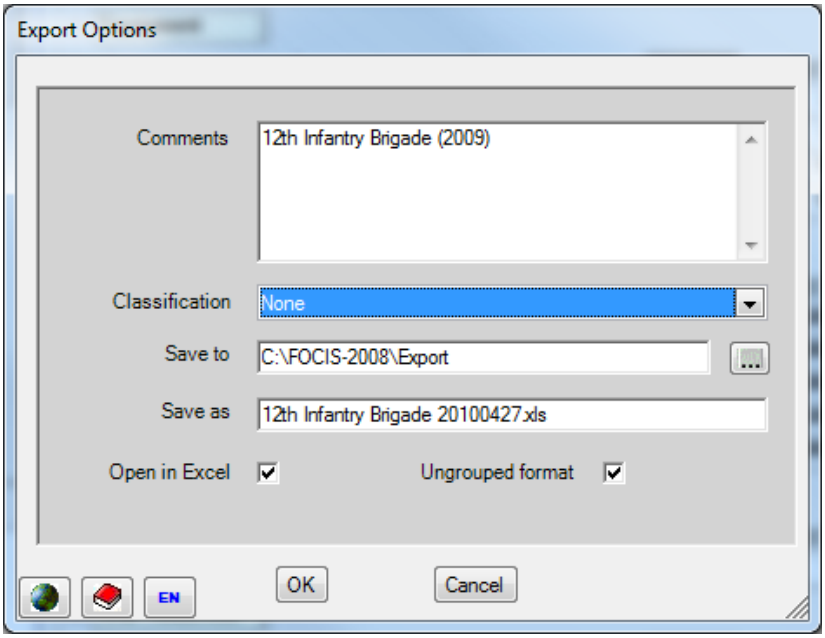


Figure 4-51. Export Options Window

The text shown in the Comments field will be added at the bottom of the spreadsheet to document the spreadsheet. By default, the Comments field will contain the name of the selected Unit and the first year that Unit exists (e.g., 2009 in Figure 4-51). You can modify the contents of the Comments field by clicking in it and entering new text.

Users can assign a security classification to the top of the exported data by clicking the drop-down arrow in the Classification field. (Note: the list of classifications available can be revised using the Terminology tab of the Translation window. To do that, in the Translation window, select the "Administrative – Security Classification Labels" category.)

The location where the exported file is created and saved can be changed by clicking the icon. The new location will be remembered the next time you use the Export function. When you perform the export, a default file name is created (the name of the Unit followed by the current date). This can be revised easily if desired, by clicking in the Save As field and typing a different name. When you click **OK**, Excel will open immediately, displaying the exported data in an ungrouped format.

Single Resource Display

FOCIS provides a second way to view and work with Unit Resource data, called the Single Resource Display (SRD) mode. In this mode, FOCIS shows all Units that have data for any single Resource (e.g., a single Personnel Type/Service combination, a single Equipment Item, an Equipment Use Metric, a Unit Activity Metric, or a single WRM Item). It provides a simpler window for working with the distribution of Equipment and WRM inventories and often is a useful way to manage the distribution of other Resources as well.

The SRD is opened by right-clicking on any Resource row in the Unit Resource Display, causing the shortcut menu shown in Figure 4-52 to appear. When this menu opens, click **Single Resource Display**. The SRD will open, displaying data for all Units that have the Resource you were pointing to when you clicked the right mouse button. In the example shown in Figure 4-53, data is displayed for all Units that have Medium Trucks. This example shows only the Actual inventory of Medium Trucks in the entire Ministry of Defense, but the display can be customized to show both Actual and Authorized data (see the section titled “Customizing the Single Resource Display” on page 4-42).

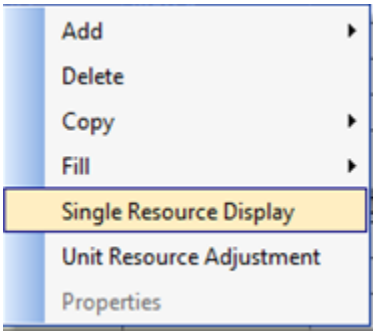


Figure 4-52. Single Resource Display Option

The display also shows a year-by-year total in the lower part of the window. Data can also be exported to an Excel spreadsheet and shared with functional specialists.

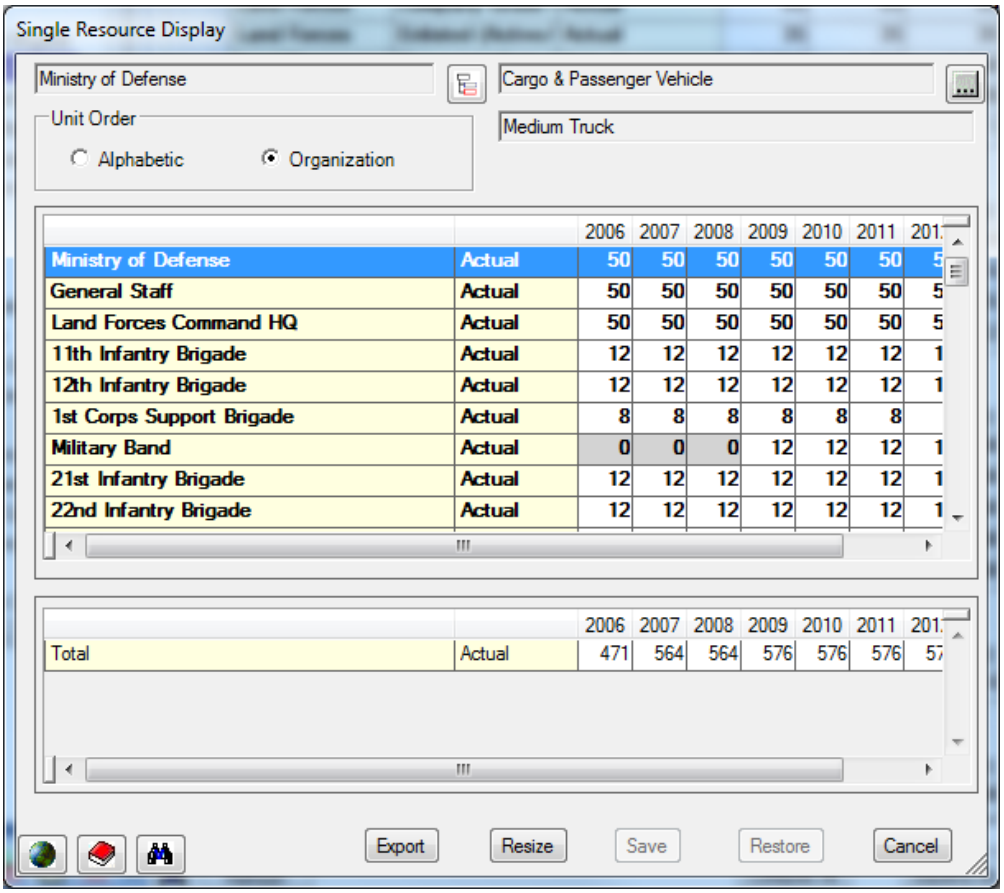


Figure 4-53. Sample Single Resource Display Window

When in the SRD mode, you can modify the display to show both Actual and Authorized values, edit quantities, or add a Resource to a Unit that does not currently have that Resource. While making any of these adjustments, the inventory totals are displayed and updated as changes are made.

You can choose to work with a single Resource for all Units in the defense program or limit the range of Unit data displayed to a specific Unit and its subordinates. This allows visibility over inventories within a single Service or even lower levels such as a Division or Wing. The total inventory of the chosen Resource over the range of displayed Units is shown at the bottom of the window. These totals by year provide a convenient way to see the whole inventory of an item and allow redistribution of the item between Units without changing its total inventory quantity.

If the chosen Resource needs to be added to a Unit where it is not currently assigned, this can be done using the **Add Units** function on the shortcut menu that appears when right-clicking within the display. Complete instructions for using the SRD are provided in the following sections.

There are three basic actions you can take to control the data displayed:

- Select the range of Units included in the display
- Select the Resource that is displayed
- Customize the display to control which data are shown (e.g., Actual, Authorized, etc.)

Selecting the Unit Range

Whenever you open the SRD, the default Unit range is the highest Unit in the database and all of its subordinates. This default setting can be changed by clicking the icon near the top center of the window. When this icon is clicked, the Units window (Figure 4-54) opens.

When the **Organization** option button in the Display Units Based On field is selected, a structured version of the entire organization is shown, as shown in Figure 4-54. Clicking a Unit and then clicking **OK** will change the Unit range in the SRD so that the top Unit is the one you selected.

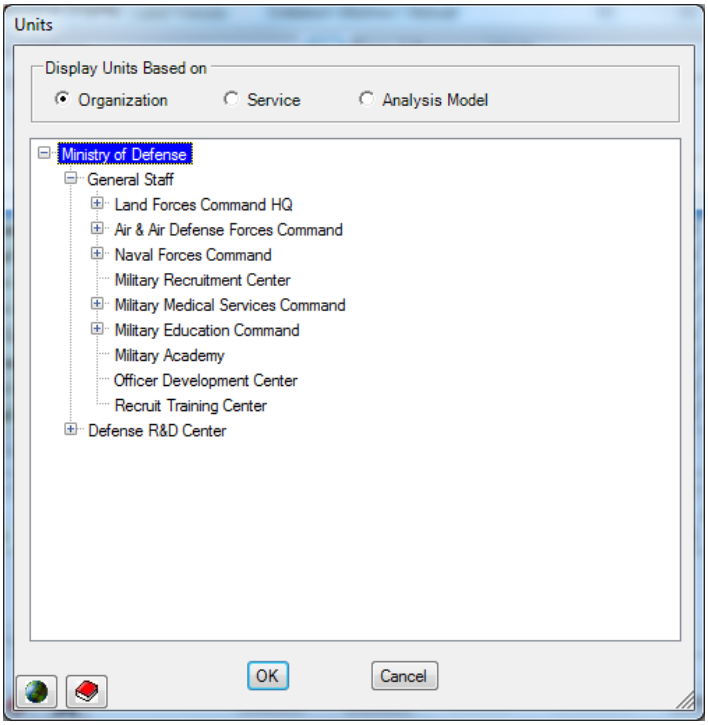


Figure 4-54. Units Window – Organization Display

For experienced users: In this version of the Unit organization, a Unit may show more than once if it has been resubordinated or if its name changes sometime during the time span of the database. If a Unit is resubordinated, it will show under all superior Units to which it is assigned. If not resubordinated but renamed, it will show with all of its names. Note: Renaming and resubordinating Units is explained in Chapter 3, Unit Organization Structure Data.

When the **Service** option button in the Display Units Based On field is selected, a list of Services is displayed, as shown in Figure 4-55. You choose a Service by clicking on it. In this example, the Land Forces Service will be displayed in the SRD when you click **OK**.

When the **Analysis Model** option button in the Display Units Based On field is selected, you select an existing Model from a drop-down list at the bottom of the window to display its structure in the main display area.

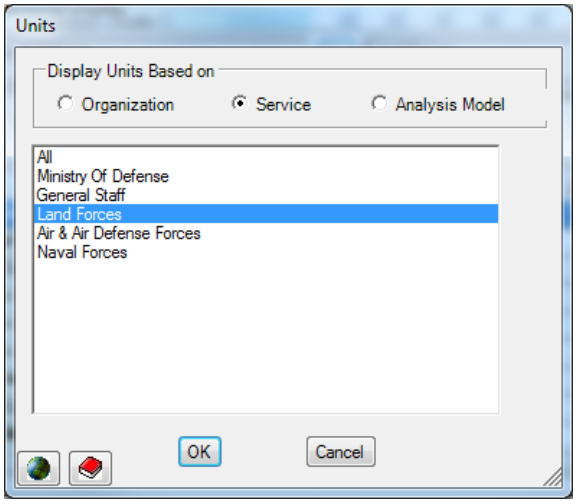


Figure 4-55. Units Window – Service Display

You may then choose a category at any level of the Model's structure. In Figure 4-56, all Units included under the Northern Command will be displayed in the SRD when you click **OK**.

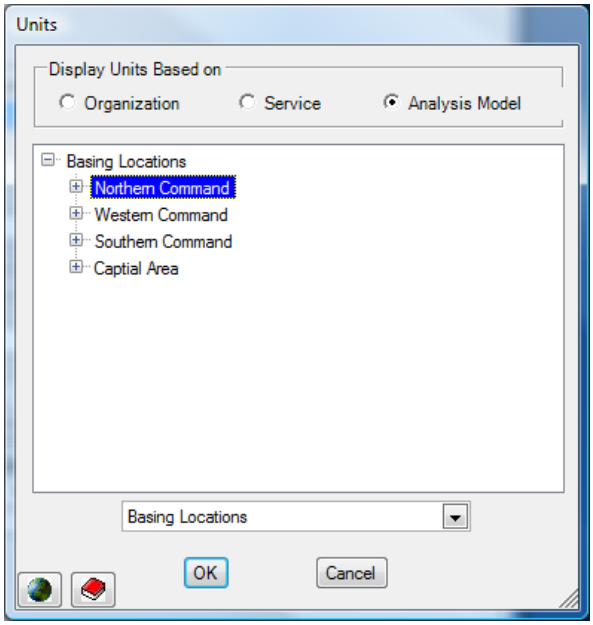


Figure 4-56. Units Window – Analysis Model Display

Selecting the Resource

When the SRD is first opened from the Single Unit Display, the Resource that you were pointing to when you clicked the right mouse button is displayed, but this resource can be changed after the SRD is open. To select a different resource, click the icon in the upper right portion of the SRD window and the Resources window (Figure 4-57) opens.

The first step in changing to another resource is to make sure that the correct Resource Type is selected. If you want to choose a Resource of another type, choose from the drop-down list, as shown in Figure 4-58. When the correct Resource Type is selected, next choose from the drop-down list or lists that will be shown in the lower portion of the screen.

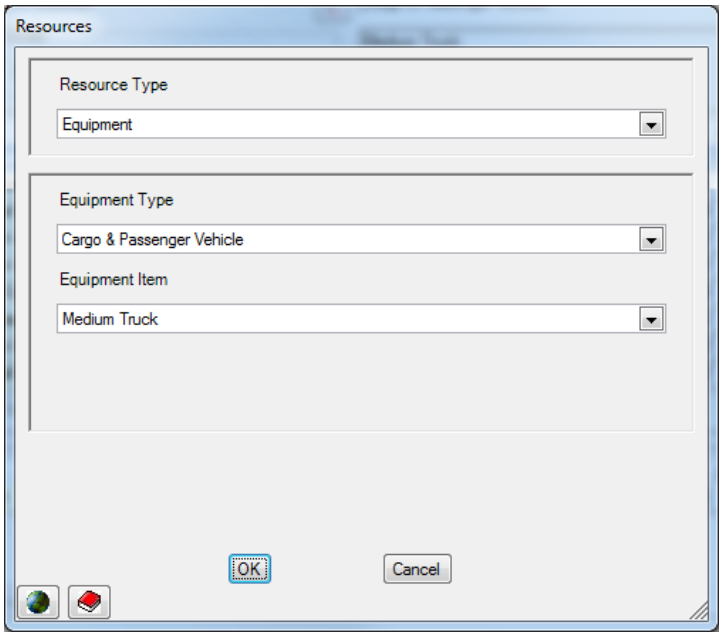


Figure 4-57. Resources Window

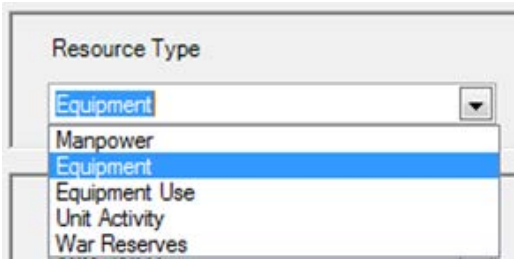


Figure 4-58. Resource Type Drop-Down

The lower portion choices change based on the Resource Type selected. The selection options for each Resource Type are shown in Figure 4-59.

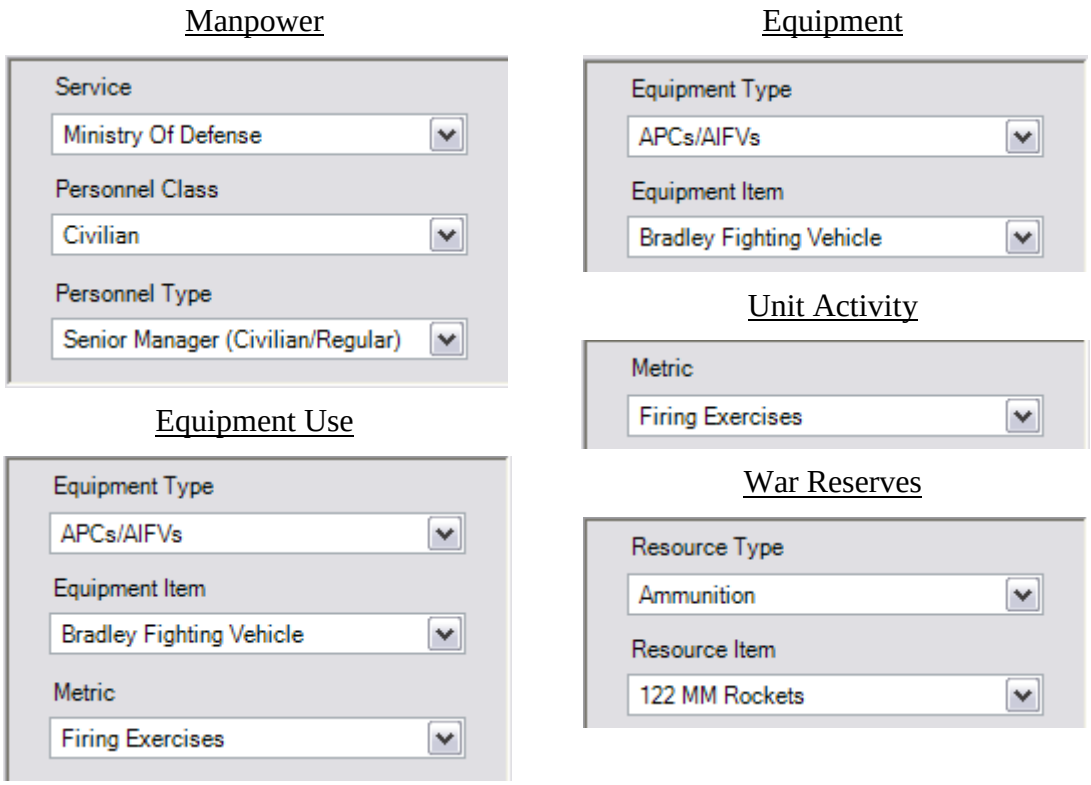


Figure 4-59. Resource Type Sub-Options

Adding a Resource to a New Unit

If the Resource you have selected does not appear in all Units where it should, you can add it to another Unit using the SRD. To add a Resource to a new Unit, right-click in the list of Units currently displayed and choose the **Add Units** option from the shortcut menu (Figure 4-60). The Add Units window, shown in Figure 4-61, appears.

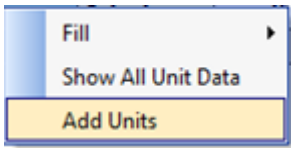


Figure 4-60. Add Units Option

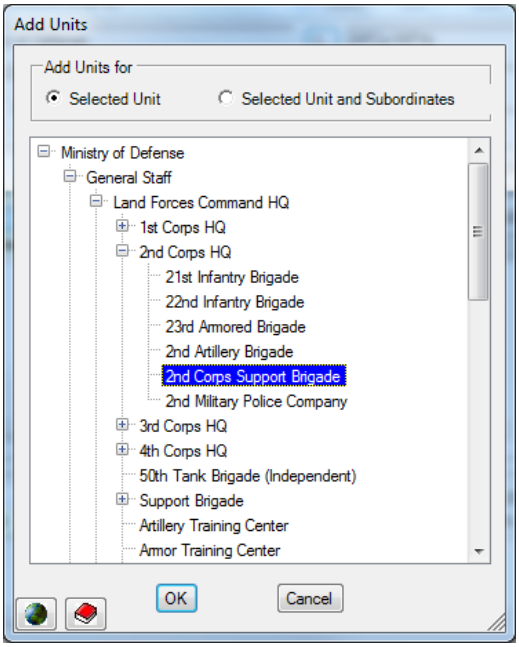


Figure 4-61. Add Units Window

If you click the **Selected Unit** option button in the Add Units for field, only one Unit will be added to the SRD list. If you click the **Selected Unit and Subordinates** option button, rows are added in the SRD list for the selected Unit and all of its subordinate Units. Each new row has its values initially set to all zeros. Only those that are changed to some non-zero value in some year are kept when the data are saved.

After selecting an option button and a Unit, click the **OK** button to return to the main SRD window, where the added Unit(s) will be displayed.

Customizing the Single Resource Display

FOCIS stores both Actual and Authorized amounts for all Unit Resources. You can choose to display these data in alternative formats by clicking the button in the lower left corner of the SRD window.

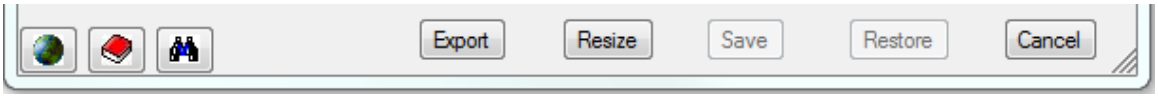


Figure 4-62. SRD Window Buttons

When you click on the button, the menu shown in Figure 4-63 appears. Select the type(s) of Resource quantities you want to display. Selecting **All** produces a display similar to that shown in Figure 4-64.

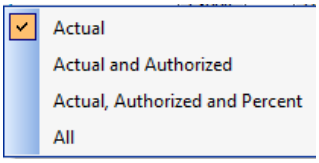


Figure 4-63. Actual/ Authorized Display Options

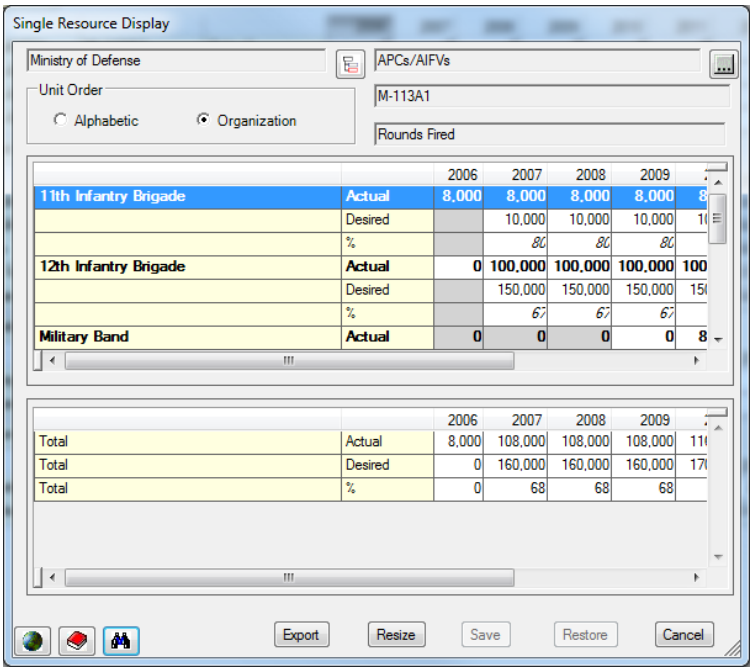


Figure 4-64. SRD Window – All Quantities

Other Options within the Single Resource Display

By right-clicking on any row in the SRD, the menu shown in Figure 4-65 is displayed.

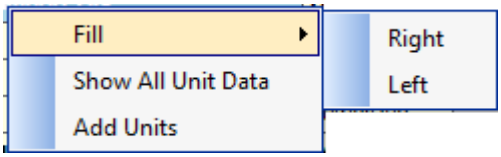


Figure 4-65. SRD Shortcut Menu Options

The **Fill** options allow you to copy any changed value to years to the right or left of the year in which the change was entered.

The **Show All Unit Data** option returns you to the Single Unit Display for the selected Unit.

The buttons at the bottom of the SRD window (Figure 4-62) have the following functions:

- The **Export** button copies all data included in the SRD to Excel, as previously discussed in other sections of the manual. When **Export** is selected, the Export Options window (Figure 4-66) opens.

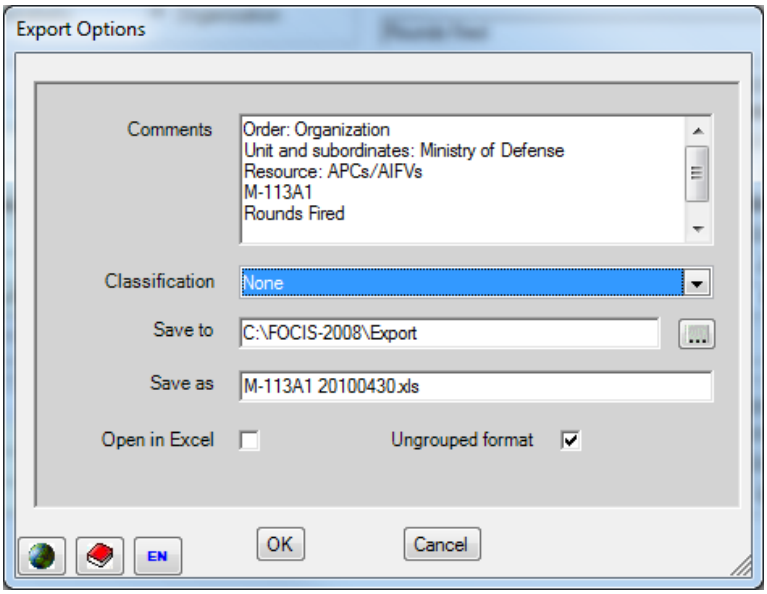


Figure 4-66. Export Options Window

- The **Resize** button changes the width of columns where the number displayed exceeds the current column width.
- As with all FOCIS displays, click the **Save** button when all desired changes are made. The window does not close after changes are made and saved.
- Click the **Restore** button to return all unsaved values to their previous value.
- Click the **Cancel** button to close the window if no changes are made.
- The **Cancel** button changes to **Close** if any changes have been saved and closes the window when clicked.

Unit Resource Adjustments

When developing and analyzing alternative defense programs, it is often handy to be able to change large groups of Unit Resource data to match some policy objective.

One typical use is being able to set all Actual manning to a fixed percentage of Authorized manning. Another use might be to set the Equipment Use or Unit Activity of several Units to some fraction of the desired level in selected years. FOCIS provides these capabilities with functions known as Unit Resource Adjustments.

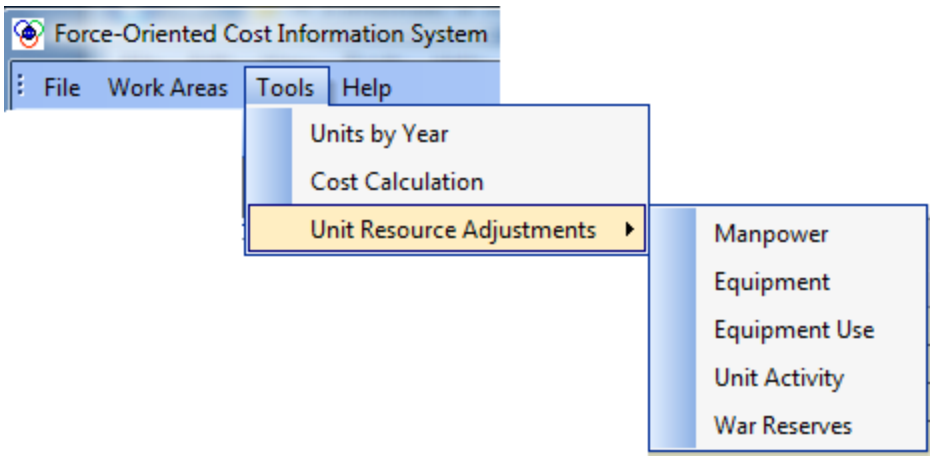


Figure 4-67. Unit Resource Adjustments on Tools Menu

Access to the Unit Resource Adjustments window is provided on the FOCIS Main Menu by clicking **Tools > Unit Resource Adjustments** as shown in Figure 4-67, or through the functions listed in the Utilities Work Area as shown in Figure 4-68.

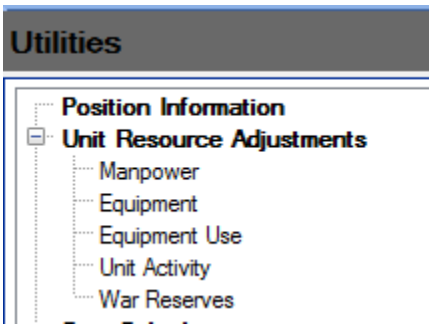


Figure 4-68. Unit Resource Adjustments on Utilities Menu

There are five different windows—one for each Resource Category. However, each window is almost identical to the others in terms of how they are used. An example of an Equipment window is shown in Figure 4-69 along with a general description of how the functions are organized.

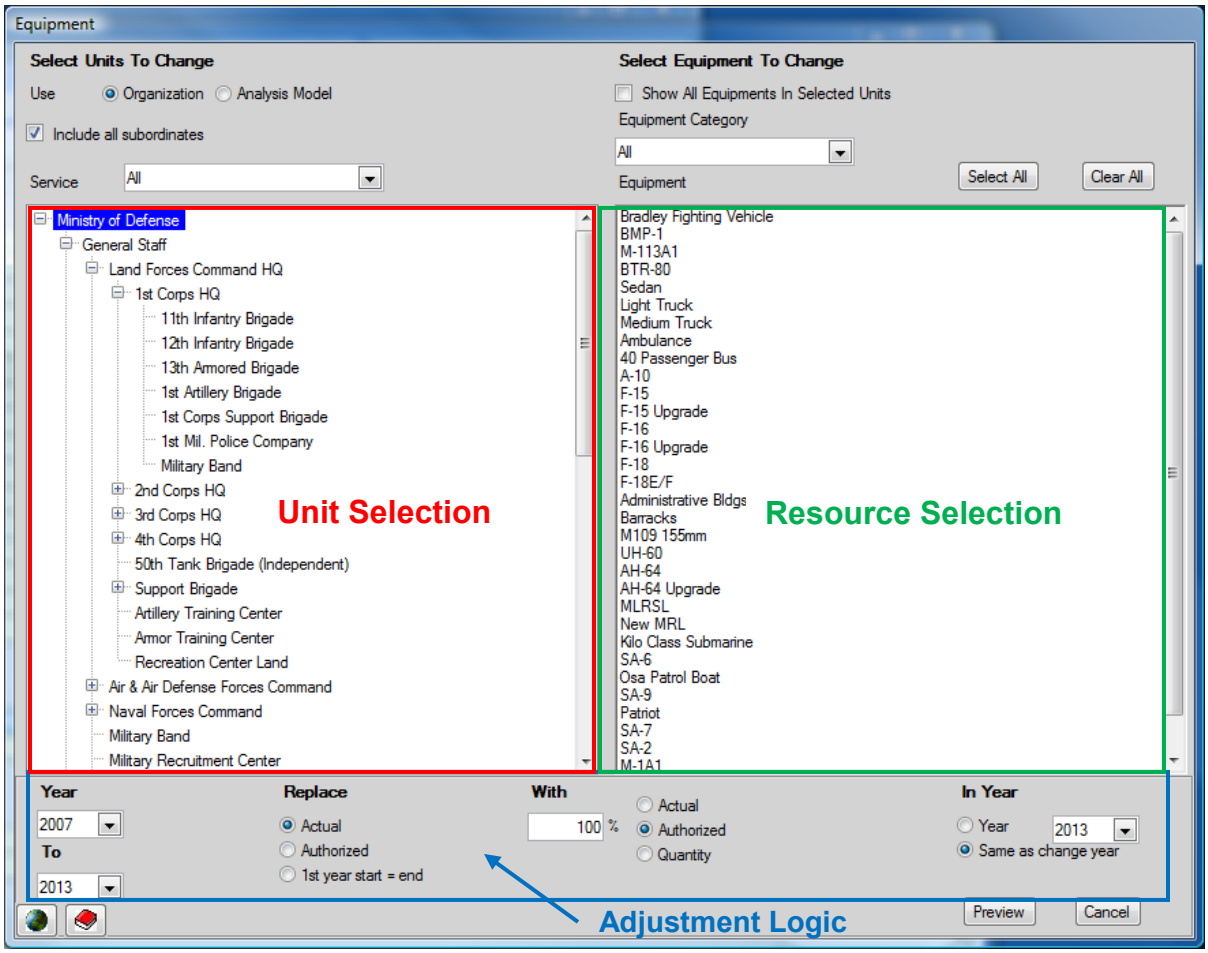


Figure 4-69. Equipment Unit Resource Adjustments Window

This window illustrates the basic capabilities of all of the Unit Resource Adjustments windows. In the top left portion, you select the range of Units to which the adjustments will apply. The example in Figure 4-69 shows that the adjustments will apply to the Ministry of Defense and its subordinates. In the top right portion, you select the Resources that the adjustments will affect. In the example, no Equipment Items are currently selected. In the lower portion of the window, you set the logic that will control the adjustments. When the Units, Resources, and logic have been set, click the **Preview** button to view the intended results of applying the settings. Each of these steps is discussed in its own section below.

Unit Selection

FOCIS provides two methods for selecting specific Units to include in the adjustments—an Organization structure or an Analysis Model. You choose a method using the **Organization** and **Analysis Model** option buttons in the upper left portion of the window. When you select the **Organization** option button, a Unit organization tree appears in the Unit selection area and you can choose any Unit from that display. The selected Unit and all subordinate Units will be included if you also select the **Include all subordinates** check box. If it is not

checked, the adjustment applies only to the selected Unit. When the **Organization** option is selected, you can limit the Units that appear in the organization tree by selecting one Service from the drop-down list in the Service field. The Service field is set to **All** as a default.

When you select the **Analysis Model** option button, a list of all existing Models is shown in the drop-down list below the button. The drop-down list selection is set to **Program Structure** as a default. The structure of the selected Model is shown in the Unit selection area of the display. You may choose a category at any level of the Model's structure. All Units included under the selected category will be used when applying the adjustment logic.

Resource Selection

Regardless of which Resource Type is being adjusted, when the Resource Adjustments window first opens, all possible Resources in the Resource Selection portion are listed and selected. This list can be reduced by making any combination of three types of limiting choices—**Show All <Resource Items> in Selected Units**, **Category Selection**, and **Item Selection with the Mouse**—which are discussed below. When the adjustment logic is applied, FOCIS will only make changes to the specific resources you have selected.

Show All <Resource Items> in Selected Units

The list in the Resource Selection portion can be reduced to show only the Resource items in the selected Units by checking the **Show All <Resource Items> In Selected Units** check box at the top of the Resource Selection area. The exact label for this check box changes depending on the specific resource being adjusted. For example, when the Adjustments window is for Equipment, as shown in Figure 4-69, the check box label appears as **Show All Equipments in Selected Units**. When this check box is selected in the Demo data set and the Unit selected is the Land Forces HQ, the list of Equipment Items displayed is reduced to that shown in Figure 4-70.

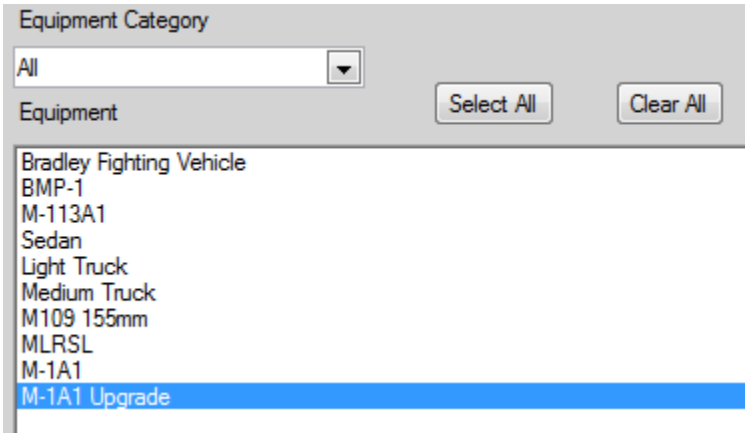


Figure 4-70. Equipment List Reduced to Selected Unit

Category Selection

The list in the Resource Selection portion can be further reduced by choosing a <Resource> Category. In the window shown in Figure 4-69, the label for the Category selector is **Equipment Category**.

Item Selection with the Mouse

Regardless of how the list has been generated and/or reduced, the adjustments are only applied to Resources that are selected. You can make final adjustments to the list using the mouse to select the one(s) you want included. This is accomplished using the standard mouse selection techniques—single click on one item, clicks on multiple items with the **Ctrl** key held down (**Ctrl**+click), or clicks on multiple items immediately next to each other by selecting the first item and then holding down the **Shift** key while clicking the last item (**Shift**+click). You can also use the **Select All** or **Clear All** buttons as needed.

Adjustment Logic

The most complex portion of the Adjustments window is the portion where you set the logic that controls the adjustments.

The first setting is the year range in which the adjustments will be made. Make that choice using the two drop-down selectors under the **Year** label (the starting year and the ending year), as shown in Figure 4-71.

Figure 4-71. Year Range Selectors

Next, you must decide on the basic logic for the adjustment. Make that selection using the choices under the **Replace** and **With** labels, as shown in Figure 4-72.

Figure 4-72. Replace / With Selectors

The most common use of the logic settings is to replace the values included as Actual values with some percentage of the Authorized values. In the example shown in Figure 4-72, the Actual values would be changed to 100% of the Authorized values.

This can be done in two ways:

- The Authorized value is the Authorized value in each year,
  or
- The Authorized value is selected from one specified year.

This is clearer if you consider the examples in Figure 4-73 and Figure 4-74.

Figure 4-73. Adjustment Logic Example 1

In 2009-2013, **Replace** Actual values **With** 100% of the Authorized values in Year 2008.

Figure 4-74. Adjustment Logic Example 2

In 2009-2013, **Replace** Actual values **With** 100% of the Authorized values in the same year. (i.e., the actual values in 2010 are based on the Authorized values in 2010).

The adjustment logic can also be used to set values to specific quantities as shown in Figure 4-75.

Figure 4-75. Adjustment Logic Example 3

In 2009-2013, **Replace** Authorized values **With** 15 (using **Quantity** radio button).

Sometimes it is useful to be able to set the values of Actual data in the "prior" year (i.e., the year before the database start year) to match the value in the first (1st) or start year of the database because of the way the prior year data are affecting the cost calculation. To do this, select the **1st year start = end** option button under **Replace** and all values in the prior year will be reset to match the current Actual values shown in the first year. An example of the results is shown in Figure 4-82 on page 4-53.

When you choose the **1st year start = end** option, the other choices are disabled, as shown in Figure 4-76.

Figure 4-76. Adjustment Logic Example 4

All other **Replace** choices can be used with all **With** choices.

Viewing and Applying Adjustments

Using Replace Options Other Than "1st Year Start = End"

After making the Unit Selection and Resource Selection decisions, and setting the Adjustment Logic, you start the process of applying the adjustments by clicking the **Preview** button. After clicking it, you will see a display with all changes that result from the choices made. Note: For a Preview using the **1st year start = end** option, see the "Using "1st Year Start = End" Replace Option" section on page 4-51.

Continuing our examples, when you use the settings shown in Figure 4-77, the Preview window will look like Figure 4-78.

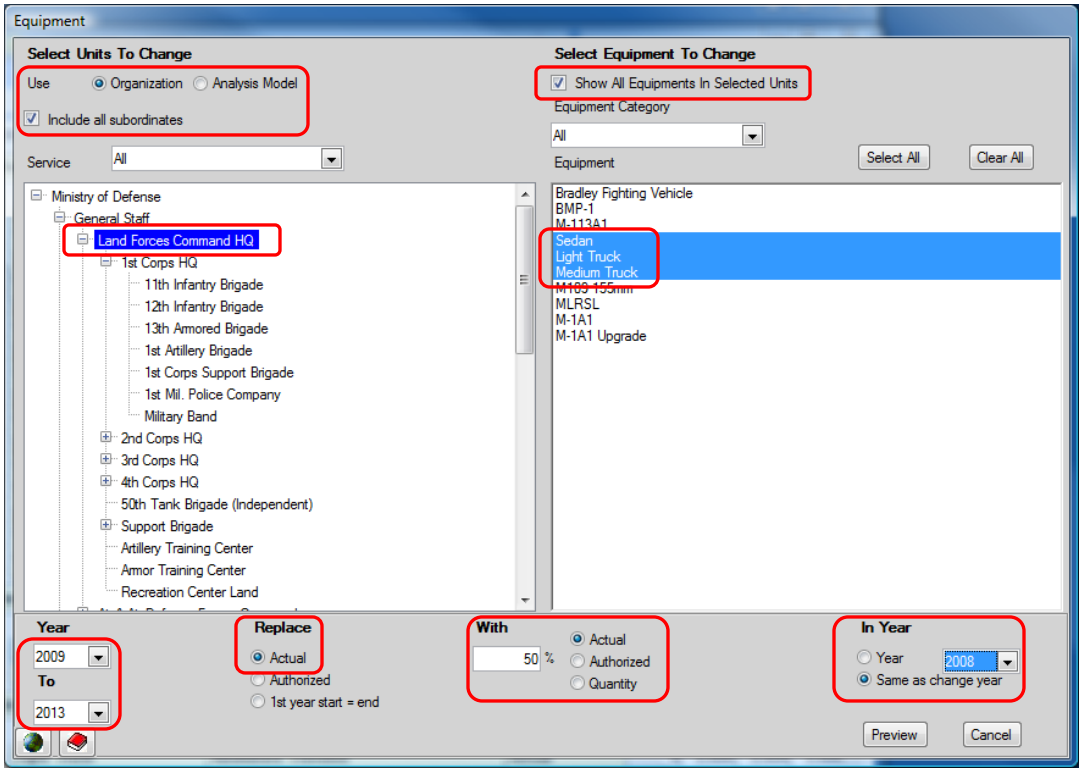


Figure 4-77. Equipment Adjustments Settings

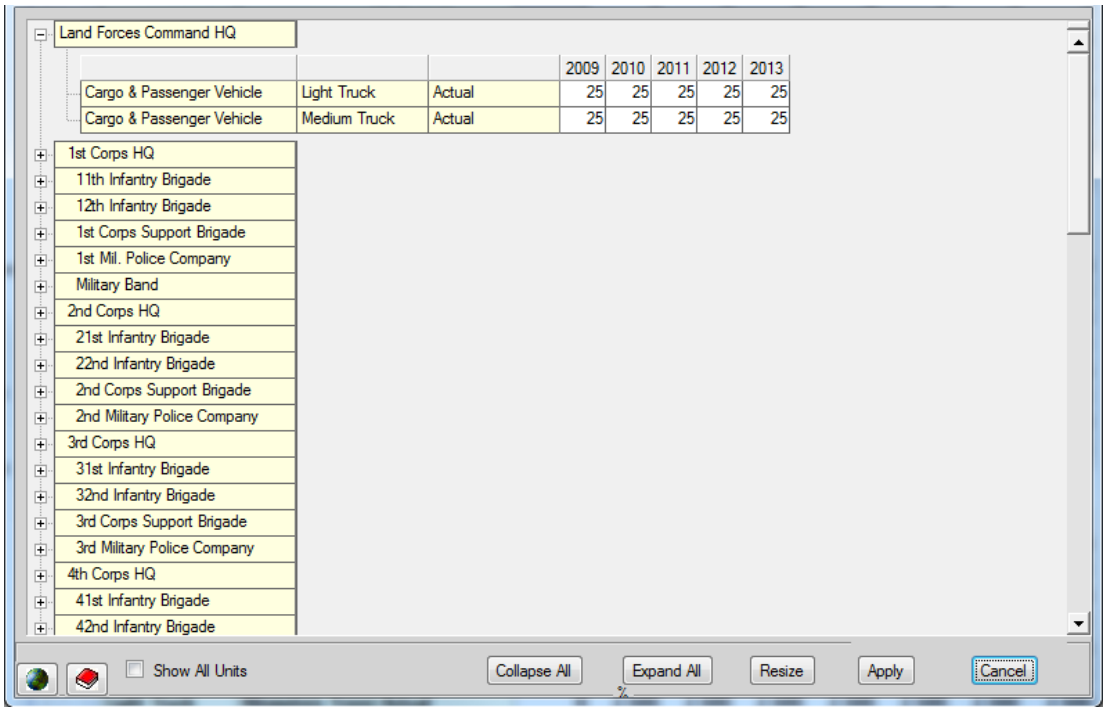


Figure 4-78. Results in Preview Window

These new values will be applied if you click the **Apply** button. Note that changes only show in 2009-2013.

Even though the initial display only shows the details for the first Unit, you can easily expand all Unit details by clicking the **Expand All** button. The **Collapse All** button will reduce the display to a list of the Units selected. The **Resize** button changes the column widths of the year columns to fit the values displayed.

If, after looking at the Preview, you decide that the adjustments should not be made, click the **Cancel** button to return to the original Adjustments window without making any changes in the data.

The **Show All Units** check box in Figure 4-78 is cleared, so only those Units affected by the selection of specific Resources and years are displayed. Some Units that are included in the full range of subordinate Units may have no changes. If you want to see all Units in the Preview, including those that do not have adjustments, click the **Show All Units** check box.

Using "1st Year Start = End" Replace Option

The Single Unit Display in Figure 4-79 shows the 11th Infantry Brigade for the database years of 2007 – 2013 (thus the "prior" year is 2006). Data have been entered as shown for the Actual values in year 2006 that are different from the values in year 2007, and this is causing cost calculations to be low for year 2007.

11th Infantry Brigade

Manpower

			2006	2007	2008	2009	2010	2011	2012	2013
Land Forces	Field Grade Offic	Actual	4	5	5	6	6	6	6	6
		Authorized		7	7	7	7	7	7	7
Land Forces	Company Grade (	Actual	50	53	53	60	60	60	60	64
		Authorized		75	75	75	75	75	75	75
Land Forces	Enlisted (Active/	Actual	32	35	35	40	40	40	40	43
		Authorized		50	50	50	50	50	50	50
Land Forces	Conscript (Active	Actual	1,050	1,050	1,050	1,200	1,200	1,200	1,200	1,275
		Authorized		1,500	1,500	1,500	1,500	1,500	1,500	1,500

Figure 4-79. Single Unit Display

Right-clicking on Land Forces and selecting **Unit Resource Adjustment** from the resulting shortcut menu brings up the Manpower Adjustments window, where the choices shown in Figure 4-80 are made.

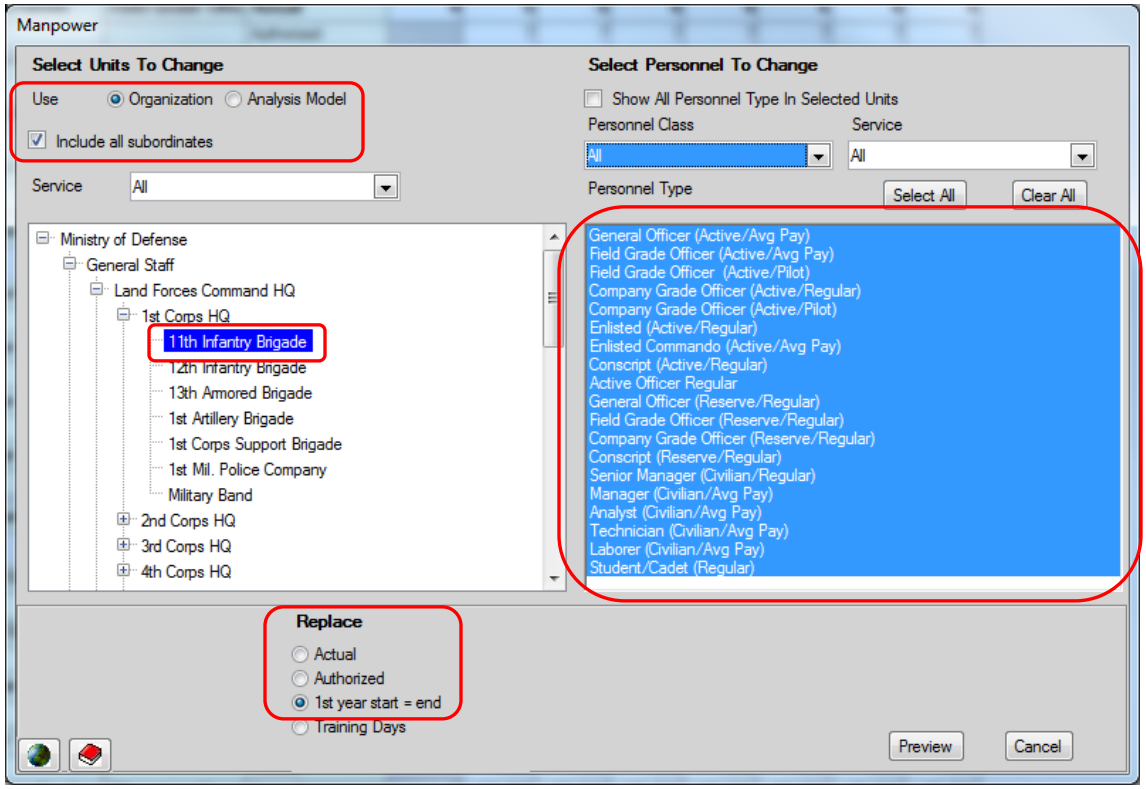


Figure 4-80. Manpower Adjustments Window

When you click the **Preview** button, the window shown in Figure 4-81 appears.

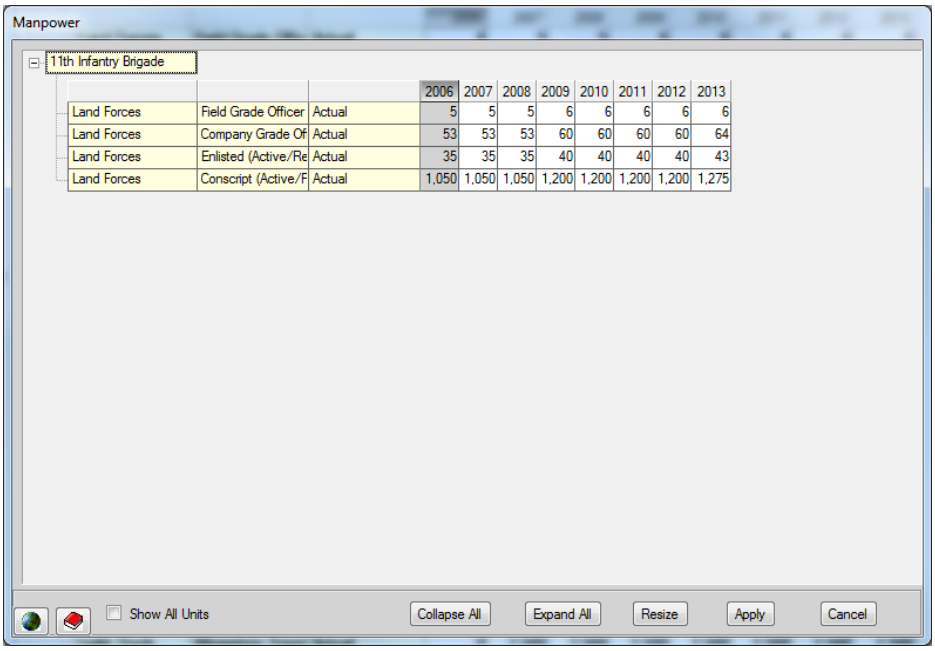


Figure 4-81. Preview Window

If these changes are correct, click the **Apply** button and the Single Unit Display is changed as shown in Figure 4-82.

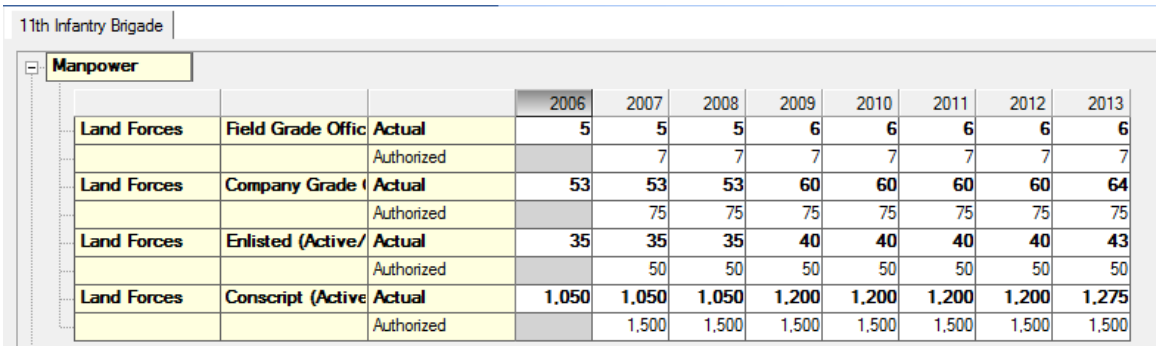


Figure 4-82. Single Unit Display with Changes Made

With the small dataset in this example, changing the values in year 2006 manually would be easier. However, with logic that applies to many Units, using the Unit Resource Adjustments abilities of FOCIS makes the changes fast and easy to accomplish.

Equipment Use Adjustments Special Features

The Equipment Use Adjustments window has features not common to the other Adjustments windows. In this window, you can set Equipment Use based upon Equipment Quantities. These functions can be used either to modify Equipment Use previously entered or to enter initial Equipment Use data when the information is available as an average usage per item of equipment.

Figure 4-83 is typical of the Equipment Use Adjustments window upon opening. All Units and all Equipment Items are selected. If you change the **With** percentage in the Adjustment Logic portion of the window to 90%, all Actual Equipment Use in all Units would be set to 90% of the **Desired** level. To activate the functions that allow assigning Equipment Use based on Equipment Quantity, only one Equipment Item and one Metric in the Resource Selection portion of the window can be selected and the **Use Equipment Quantity Data** check box in the Adjustment Logic portion of the window must be selected.

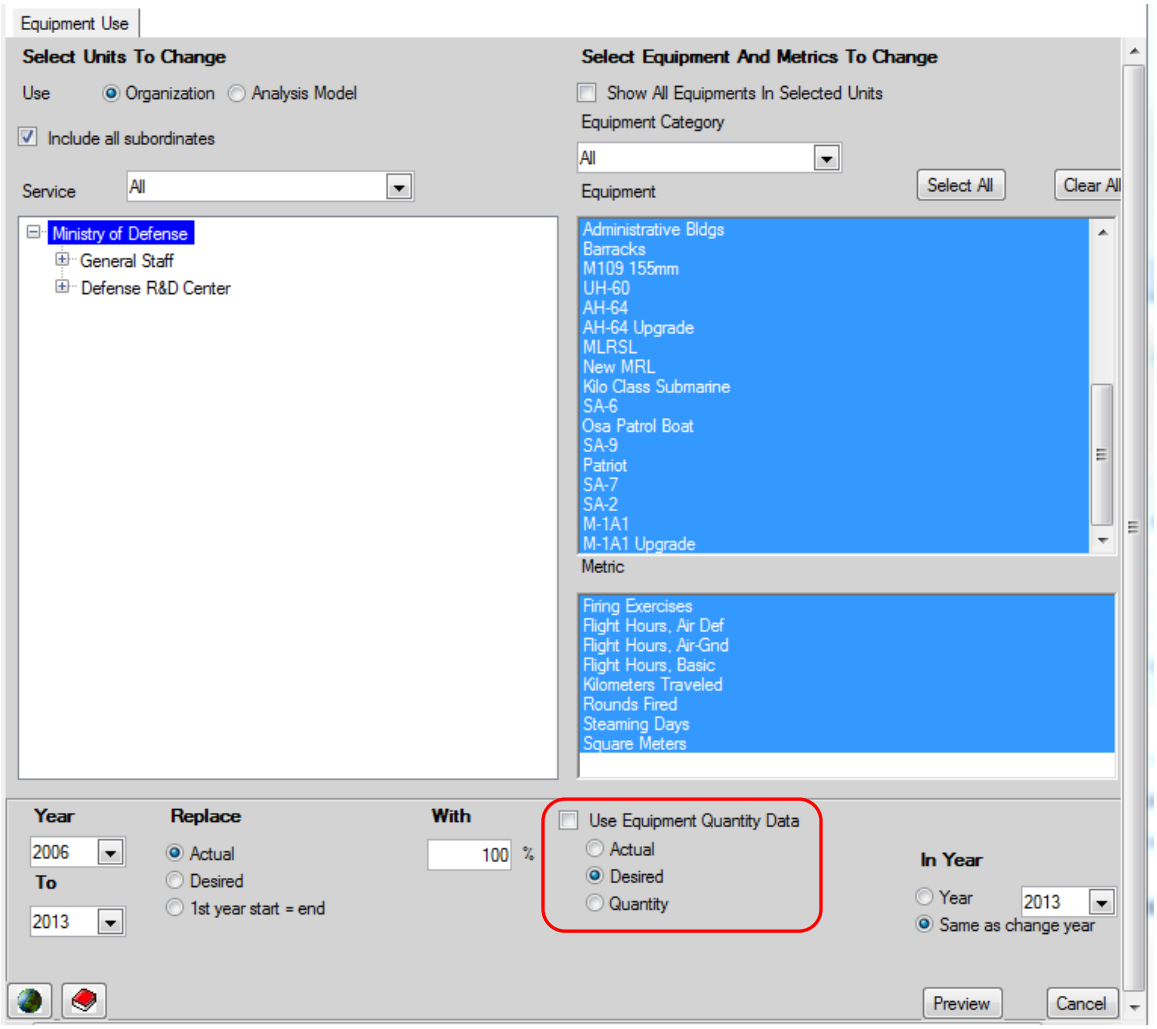


Figure 4-83. Equipment Use Adjustments Window

If the **Use Equipment Quantity Data** check box is selected when more than one Equipment Item or more than one Metric is selected, FOCIS will show the error message displayed in Figure 4-84.

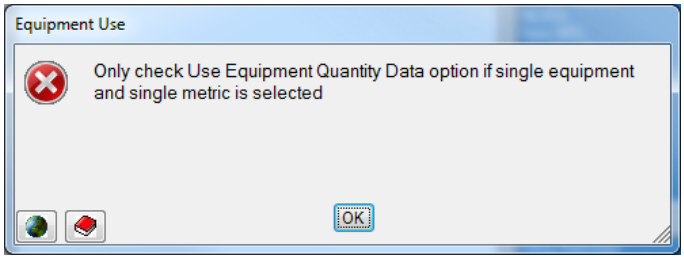


Figure 4-84. Equipment Use Error Message

When a single Equipment Item and Metric and the check box are selected, the window changes as shown in Figure 4-85.

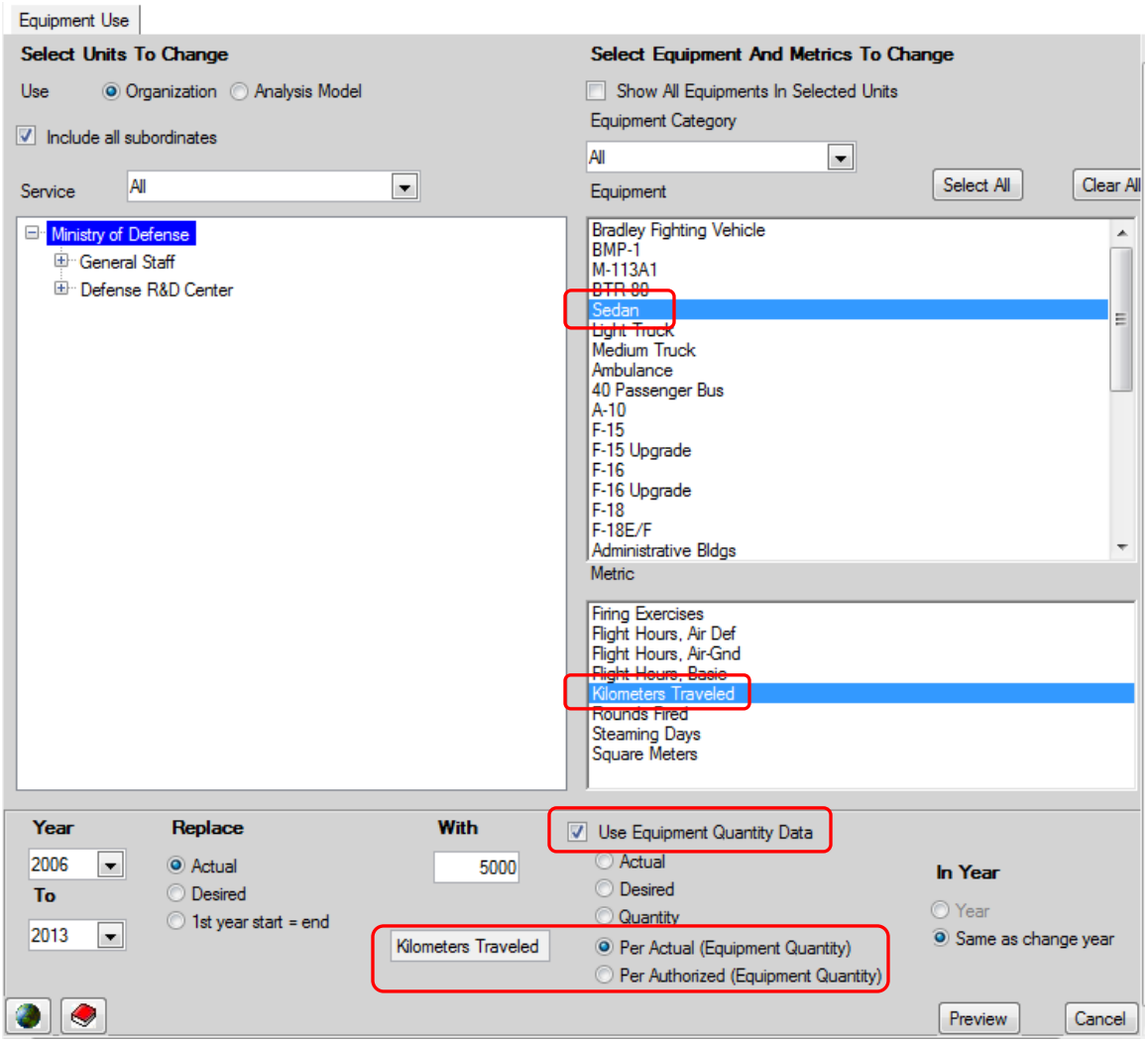
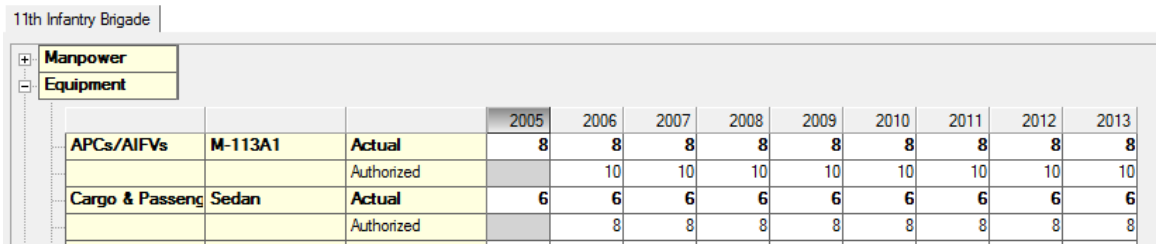


Figure 4-85. Equipment Use Adjustments WindowUsing Quantity Data

With these choices, it is possible to set the Actual or Desired Equipment Use Metric (Kilometers Traveled) based upon either the Actual or Authorized quantity of Equipment

(Sedan) in each Unit. Using this window saves users from having to calculate the Equipment Use and enter that data Unit by Unit and year by year.

Examples using the 11th Infantry Brigade and Sedans are shown in Figure 4-86 through Figure 4-90. Figure 4-86 shows the Equipment Quantities from the Unit Data Work Area.



			2005	2006	2007	2008	2009	2010	2011	2012	2013
APCs/AIFVs	M-113A1	Actual	8	8	8	8	8	8	8	8	8
		Authorized		10	10	10	10	10	10	10	10
Cargo & Passeng	Sedan	Actual	6	6	6	6	6	6	6	6	6
		Authorized		8	8	8	8	8	8	8	8

Figure 4-86. Equipment Quantities from Unit Data Work Area

Figure 4-87 shows an example of Adjustment Logic for the selected Equipment (Sedans) and Metric (Kilometers Traveled), using 100 Kilometers Traveled per Sedan.

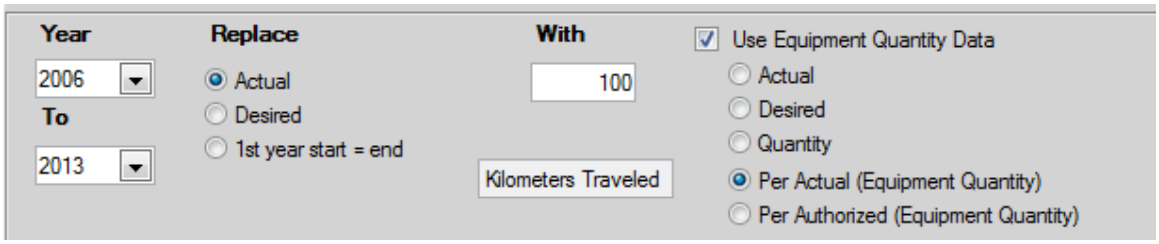
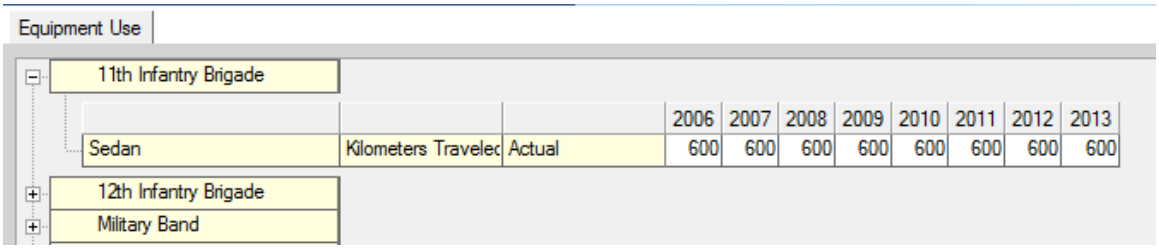


Figure 4-87. Adjustment Logic Settings Based on Actual

When the adjustment is "Previewed" in the Adjustment window, the results appear as shown in Figure 4-88. Notice that the Actual Kilometers Traveled is set to 600 because the Actual number of Sedans is 6 in each year.



			2006	2007	2008	2009	2010	2011	2012	2013
Sedan	Kilometers Travelec	Actual	600	600	600	600	600	600	600	600

Figure 4-88. Preview Results Window Based on Actual

Alternatively, it would be possible to set the adjustment logic to assign Actual use based on the total amount of Authorized Equipment, as shown in Figure 4-89.

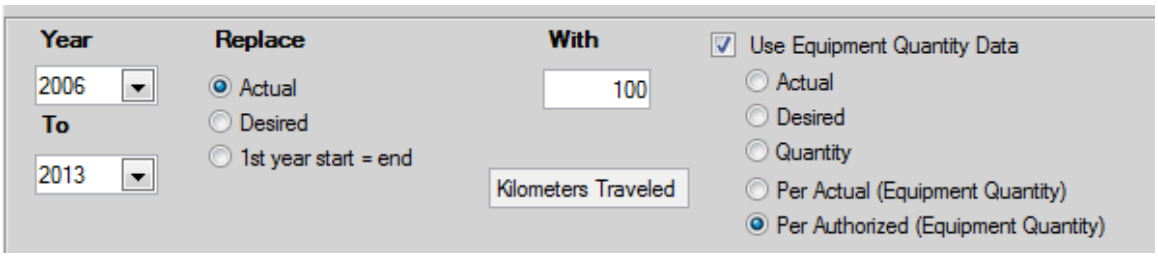


Figure 4-89. Alternate Adjustment Logic Settings Based on Authorized

This changes the data in the 11th Infantry Brigade to 800, as shown in Figure 4-90, because the number of Authorized sedans in this Unit is 8 per year.

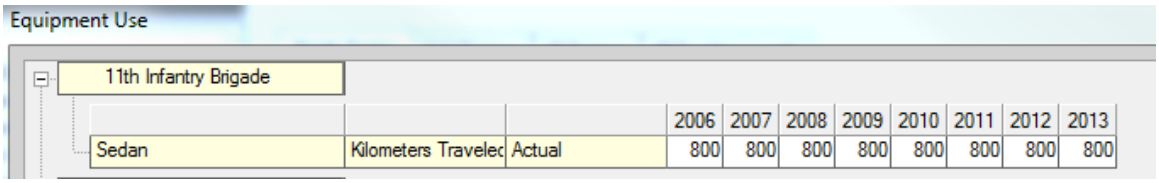


Figure 4-90. Preview Results Window Based on Authorized

Chapter 5.
Cost Data

FOCIS users collect and enter several types of data while using FOCIS:

- **Setup data:** Information that describes the basic characteristics of a country's defense program in its own terms and in a manner consistent with the data that are available.
- **Organization Structure data:** Information on the military units and civilian organizations that comprise the total defense program.
- **Unit Resources data:** Information on the personnel and key material resources in each unit and organization.
- **Cost data:** Information on the costs of purchasing, using, and maintaining the personnel and material resources of defense.

This chapter of the FOCIS User's Manual describes factors that should be considered in deciding how defense costs will be modeled and provides some ideas on how cost data can be developed.

This chapter also provides detailed instructions on how to use each FOCIS cost data window.

The chapter starts with a general introduction to FOCIS cost data and cost modeling and then provides an in-depth discussion of each of the types of cost data listed below:

- Personnel Costs
- Equipment Operating Costs
- Equipment Overhaul Costs (and quantities)
- Unit Operating Costs
- Equipment Procurement Costs
- Support Material Costs
- Budget Line Item Costs
- Inflation Data

FOCIS can be used to support many aspects of defense resource management. Many of these uses derive their value from the links created between the basic characteristics of the defense program (e.g., force structure, unit manning, equipage, training levels, modernization projects) and the defense budget.

Achieving this linkage requires two complementary actions:

- Developing a complete description of the defense program's characteristics, and

- Collecting or developing cost data for each element of the program.

This chapter describes how cost data can be collected, developed, entered, maintained, and used in FOCIS.

Modeling Defense Costs with FOCIS

FOCIS offers several cost estimating tools that can be used where and when they are applicable to model defense costs. FOCIS's approach to cost estimating does not enforce one fixed approach; instead, it offers alternative ways to represent costs. You choose the cost tools that you believe best represent the costs of your defense activities.

The first part of this chapter describes the available options, provides some insights into how choices can be made, offers insights on approaches that have proven useful, and points out the consequences of other choices that have not been as helpful. Many of the choices are straightforward and do not require difficult decisions; however, others are not as easy.

When considering these more difficult choices, it is always important to have a clear idea how FOCIS will be used or—more specifically—what kinds of decision variables you want FOCIS to be able to work with. If one potential use you envision for FOCIS is adjusting training levels among Units to ensure limited resources are devoted to the highest priority missions, then the major costs associated with training need to be modeled in a way that reflects their relation to measures of training.

> **Important:**
>
> FOCIS offers a broad range of cost estimating functions that can be used to model defense costs in ways that reflect how local users believe defense funding is or should be related to basic force and program characteristics.

Cost Drivers and Cost Factors

FOCIS cost modeling and estimating can best be understood using two terms that are fundamental to all cost modeling. These terms are cost driver and cost factor.

- **Cost Driver**[4]**:** An object, activity, or event that affects the cost. Simple examples of cost drivers are people in units, equipment inventories, equipment overhauls, equipment procurements, flying hours, kilometers driven, operating hours, a construction project, or an administrative activity.
- **Cost Factor:** The rate at which costs are incurred in relation to a specific cost driver. For example, pay per person per year, food per person per year, fuel cost per steaming

[4] The term "cost driver" is also sometimes used to mean a major contributor to total cost; e.g., fuel is a cost driver in the operating and support costs of fighter aircraft. We do not use the term "cost driver" in this sense of its usage in this manual.

hour, electricity cost per unit per year. Cost factors have two characteristics. One characteristic describes the cost driver that the factor supports. The other characteristic is the cost factor's metric—or the unit of measure—that answers the question "cost per?"

When the costs of defense can be related to cost drivers that describe the defense program, it is a relatively straightforward exercise to answer questions like:

- How much would it cost to increase the manning of high priority units?
- How much would it cost to increase the flying hours of an attack helicopter unit?
- How much do we spend each year to operate Brigade X?

There are many ways to model the costs of defense activities. Some costs, like pay, are straightforward; others, like fuel, are more complicated because several things affect how much fuel is used. The choices of how the costs of each portion of the defense program are modeled will have a major impact on the usefulness of FOCIS.

Choosing how to model defense costs in any situation will depend on several factors. One important, but not necessarily dominant, consideration is the availability of cost data. Analysis and reasonable approximations often can be used to develop cost factors where the data collected is inadequate.

A more important consideration is the choice of cost drivers—the answer to the question of what makes a particular cost increase or decrease. This question leads to one effective way to approach the overall problem of modeling the costs of the defense program.

This approach has been shown to be a practical starting point in many countries and starts by taking the defense budget, category by category, and asking the simple question, "What 'drives' the amount we spend in this category?" The answer will be one or more cost drivers, such as the number of people, the amount and use of equipment, which procurement projects we approve, and so on.

Choosing the "Right" Cost Relationship

Deciding how to model costs in FOCIS is often complicated by considerations of where to get the data needed to support a desired modeling approach. When data collection systems do not exist to provide the desired data, approximations derived from whatever data are available are almost always more useful than restricting your modeling approach to only the readily available data. It turns out in almost every situation that it is much more important to have a generally accurate approximation than to have no insight into how funding is linked to critical force and program planning factors.

One common example of this is how fuel costs are modeled. For ships and aircraft, it has been common practice to understand fuel use in relation to metrics such as steaming hours or flying hours. However, in land combat Units where fuel is used with many types of combat

and support vehicles, and records are not kept of fuel use by type of vehicle, modeling fuel costs is more difficult. There are no official records to draw on to establish the fuel cost per kilometer driven and maybe not even records on how many kilometers are driven in a typical year.

This presents a difficult problem. There are several choices that can be made in modeling fuel costs of land combat Units:

- **One Lump Sum:** The total fuel expense for all land combat Units could be treated as just a "lump sum" annual expense.
- **Lump Sum by Unit:** The total fuel expense for each land combat Unit could be treated as just a "lump sum" annual expense.
- **Annual Fuel Use by Vehicle Type:** The Unit's total fuel expense is divided among the major fuel users.
- **Fuel Use per Kilometer by Vehicle Type:** Fuel use is estimated by vehicle type independent of the Unit where it is used by using specifications or logistics planning factors.

The first approach (One Lump Sum) may represent the money that needs to be set aside for fuel, but it is only a good estimate as long as there are no changes in force make-up, equipment inventories, or equipment use (e.g., training levels). If a lump sum approach is used, future changes in program planning factors will not cause FOCIS to recognize how the fuel portion of the budget should change. This approach is the easiest to implement but provides no useful information in analyzing how resources are used and no insight into how future fuel costs will vary.

The second approach (Lump Sum by Unit) offers only one advantage over the first approach. If the force size changes, FOCIS would adjust its estimate of fuel requirements based on the number and type of Units existing each year. There is also more information on costs of different Units, and this could help in analyzing the costs versus benefits of different types of Units.

The third approach (Annual Fuel Use by Vehicle Type) provides a large step forward in modeling the fuel costs of the land combat force. It would permit FOCIS to take future changes in vehicle inventory into account in estimating total budget requirements of different program alternatives. Changes in force structure that caused increases or decreases in total vehicle inventories, decisions to increase equipment fill rates in high priority units, and the addition of new types of vehicles would all affect FOCIS's estimate of fuel expenses. The one shortfall is that changes in vehicle use possibly associated with changes in training and readiness would not be reflected because fuel costs are only recorded as fixed annual costs by vehicle type, not based on usage.

The fourth approach (Fuel Use per Kilometer) provides the best solution in terms of how well FOCIS can reflect changes in equipment use (e.g., training or operating tempo) in the

funding requirements and comparative analyses of Units and costs. This approach also offers opportunities to more fully deal with the relationship between readiness and funding requirements, especially if equipment usage standards or goals have been or can be established.

There are two challenges associated with this approach. You will need to collect information on equipment use by vehicle type and Unit, and you will need to estimate the average fuel cost per kilometer of use. While actual data from reliable data sources is always preferable, both equipment usage and costs can be approximated and still provide useful analytic information as long as the approximations can be validated as being roughly correct.

> **Important:**
>
> How you choose to represent costs determines how well FOCIS can relate defense funding requirements to force and programming planning factors and what kinds of cost analyses FOCIS can support.

Choosing the Level to Model Costs

One point this chapter will emphasize several times is that finding the appropriate level of detail in modeling defense program costs is a critical decision that will affect the ease of using FOCIS for it primary intents. There is a tendency to want to model costs in as much detail as you can support, but extra detail adds work, greatly increases the size of the database, and yet often does not provide any additional benefit to the quality of program development or defense resource analysis using FOCIS.

Consider the decision on how to model defense costs for Utilities. Assume that the defense budget has a section for Utilities and further sub-sections for each type of Utility, broken down as follows:

2.04 Utilities

- 2.04.01 Electricity
- 2.04.02 Heat
- 2.04.03 Water
- 2.04.04 Waste Disposal

Often, it is feasible and there is enough information to identify the annual funding requirements for all Units for each of the four sub-accounts: Electricity, Heat, Water, and Waste Disposal. Doing so can produce a lot of detail in the estimate of future budget requirements, but at the price of having to collect and enter four times as much information as would be required to simply represent the total cost of Utilities for each Unit.

If a single cost factor per unit for Utilities were created, the analysis will still provide an accurate estimate of the funding that must be set aside to pay for Utilities. Then when the

mid-term program plan developed with FOCIS is passed to the Budget activity, there will be enough funds specified for budgeteers to make the distribution at budget level detail while establishing a control total that can be used to ensure that enough—but not too much—funding has been included for all Utilities.

> **Important:**
>
> Modeling costs at too low a level of detail adds work but does not provide corresponding benefits for program development or analysis.

Standard Costs

A common problem in modeling defense costs is that the funds expended in many areas are more influenced by the funds that were available than by the funds needed to do the work properly. For example, sometimes the current funding for spare and repair parts is based on maintenance practices that are not good for the long-term health of the equipment fleet. If you use this low current funding as the basis for creating cost factors for spare and repair parts, you will never be able to properly fund this important factor in creating useful defense forces.

This problem potentially occurs in many areas of defense spending. The current budget for food may not be adequate to properly feed soldiers. Funds for basic building maintenance may be far below the minimum required to do basic repairs. Funding for electricity and other Utilities may not allow some Units to operate with the desired quality of life. Using these current low expenditures as the sole basis for cost factors can perpetuate unacceptable conditions for years beyond the time desired for improvement.

FOCIS provides a way to avoid this problem in the areas where current funding is known to fall below the desired level, through the use of Standard costs accompanied by year-by-year Funding Levels. FOCIS costs that use the Personnel, Equipment Operations, Equipment Overhauls, or Unit Operations cost drivers are entered as what FOCIS calls “Standard” costs. The term **Standard cost** is used to mean **the funding that should be included in the budget to provide full funding for an activity**. If no additional information is provided, the Standard cost factor will be used every year with the only adjustments being for inflation.

FOCIS allows you to enter “additional information” to supplement the Standard costs. This additional information is provided on a year-by-year basis so that you can create Annual Factors that will be used in place of Standard costs. The Personnel Cost data window shown in Figure 5-1 illustrates how these two types of data are used together. (A detailed description of this and similar cost information windows is provided later in the chapter.)

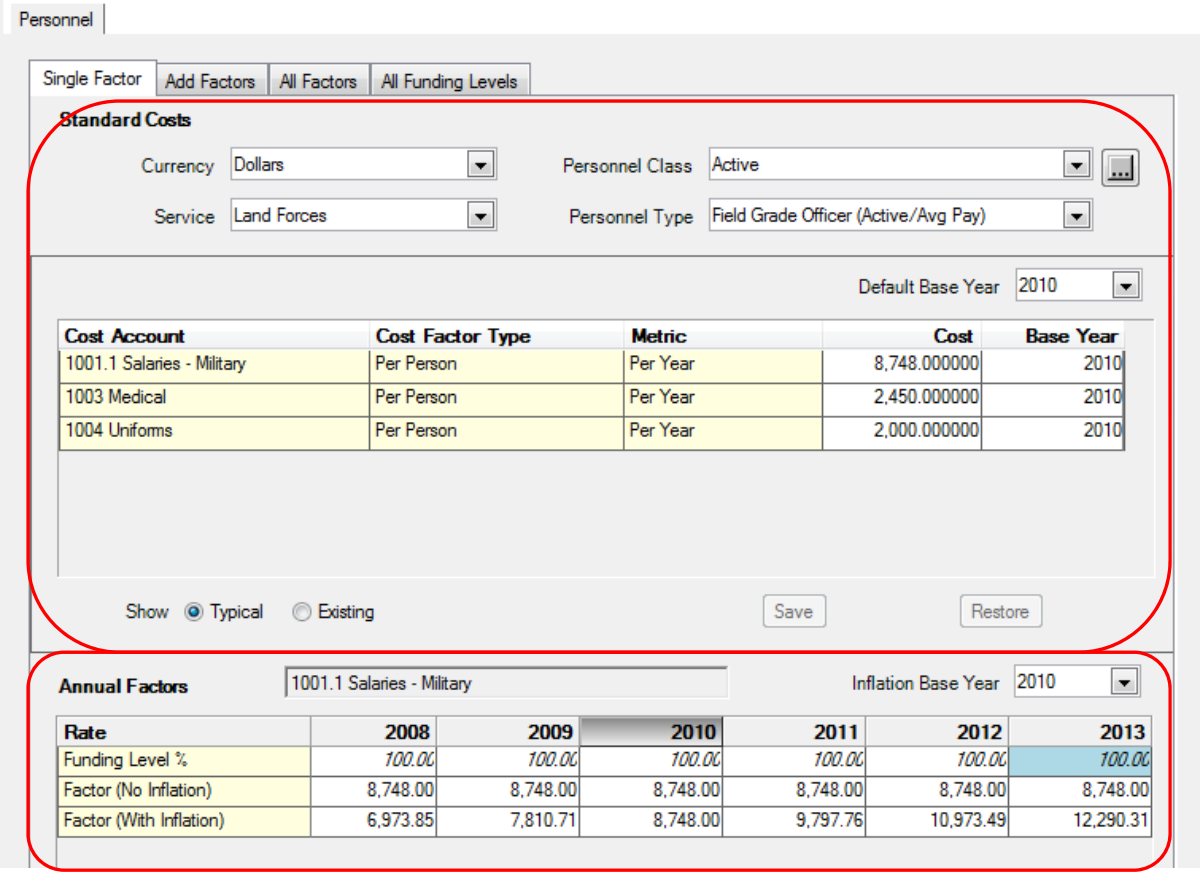


Figure 5-1. Personnel Cost Data Window

The top portion of this window shows the Standard costs for an "Active Field Grade Officer" in the Land Forces. The Standard Salary cost of $8,748 per person per year is shown on the first line of the grid. In the lower portion of the window, Annual Factors are shown in three ways: as Annual Funding Level %, as prices with no inflation, and as prices with inflation. Funding Levels are percentages of the Standard cost that are used to calculate the actual amount that will be placed in the funding estimate for each Land Forces Active Field Grade Officer.

The third line in the top portion shows uniform costs. In the case of uniforms, it could be that even though these officers are supposed to receive $2,000 per year for uniforms, the current funding situation only allows them to receive $1,000 per year in 2010 and the current leadership wants to increase that over the next three years.

Figure 5-2 shows how that situation would be handled in FOCIS. In the lower portion of the window, the Annual Factor in 2010 shows that only $1,000 was spent in this year. This example shows that there was an effort to increase this a little at a time throughout the mid-term planning period. One way to describe this increase would be to say that the Funding Level (relative to the Standard cost) would increase to 70% in 2011, to 85% in 2012, and to 100% in 2013.

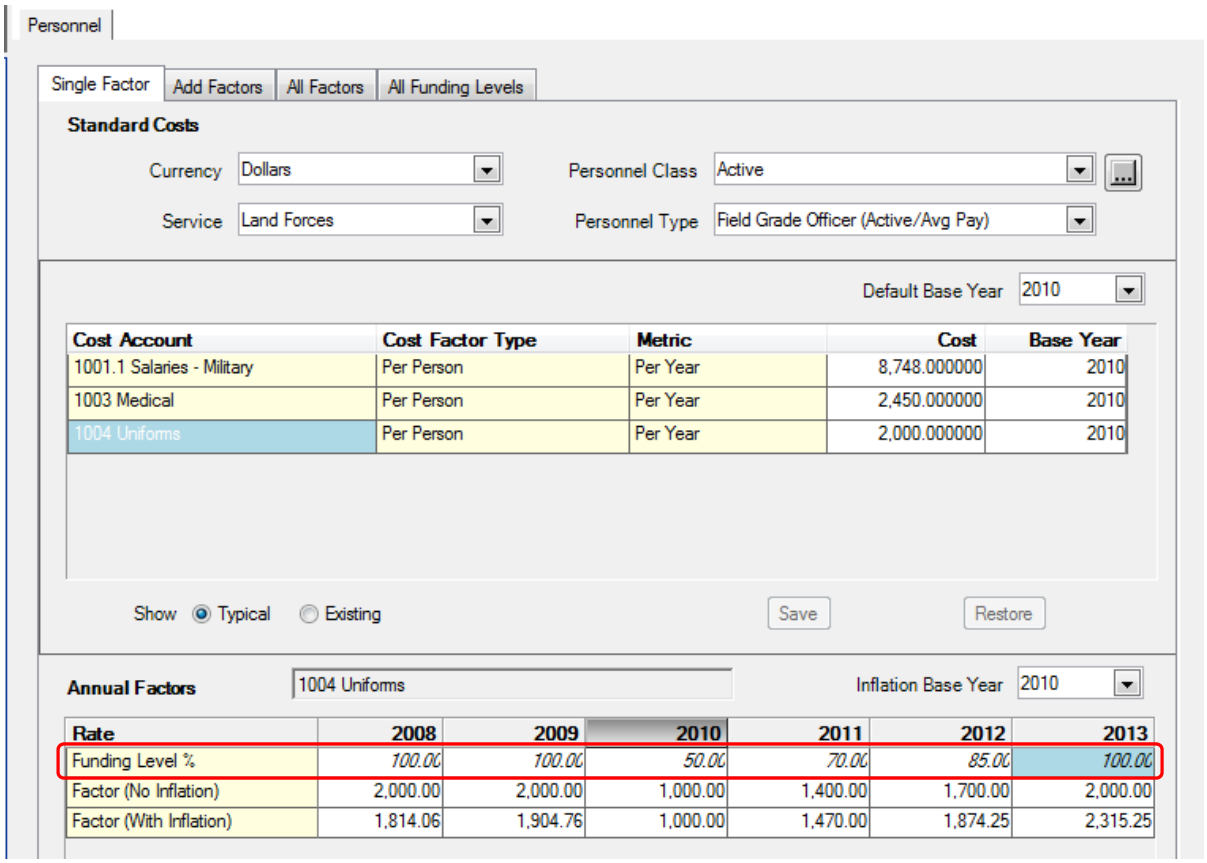


Figure 5-2. Annual Factors Showing Year-to-Year Changes

Comparable information could have been given in terms of actual dollars with or without inflation. Furthermore, as we explain later in the chapter, the data could have been entered in any one of these three ways depending on how the data were most easily available.

Later you will learn how, after entering these funding level values for officers in Land Forces, you could use the All Funding Levels window to quickly apply these levels to officers in all Services or even all officers and NCOs in all Services.

Thinking of costs as having a Standard level and, possibly, year-to-year variations can provide additional flexibility to developing multi-year program plans.

This perspective adds a useful and meaningful “policy” variable to the decision process. In essence, it says that there are options to consider in terms of how you fund various activities of defense. You may deliberately decide to fund some expenses below the most desired level as a **policy decision that reflects a priority**. You may deliberately decide to improve funding of inadequately funded key funding categories because they are interfering with accomplishing high priority objectives.

Funding levels greater than 100% can be entered in FOCIS.

You can only take advantage of these FOCIS features if some effort is invested in defining true Standard costs. It will not be necessary to do this for all cost factors, but is highly recommended for those areas of the defense budget that are known to be funded significantly below the level desired in the long term.

> **Important:**
>
> FOCIS can be used to represent the systematic funding improvement of areas of the budget that are currently under-funded by developing true Standard cost factors rather than using only current funding as cost factors.

Inflation in FOCIS

FOCIS is designed to work with costs from any year and to show costs and cost estimates in the prices of any year. This is accomplished by allowing you to enter Inflation data for historical years and estimates of Inflation in future years. The details of how Inflation is represented are described in the "Inflation Data" section in this chapter along with the discussion of how to use the Inflation window.

However, a general knowledge of how FOCIS works with Inflation data will be useful in understanding all cost data.

It is a reality of modern economies that identical things (purchases, salaries, etc.) cost different amounts at different times. Average gasoline prices in the U.S. varied considerably from 2000 to 2006, as shown in Figure 5-3. It would not be meaningful to state the cost of gasoline without giving a year in which that price applied. Likewise, every cost in FOCIS is accompanied by a year and that year is used as a Base Year to inflate and deflate costs.

Year	$/Gallon
2000	1.462
2001	1.389
2002	1.301
2003	1.511
2004	1.784
2005	2.207
2006	2.522

Figure 5-3. Costs and Associated Base Years

FOCIS has user-entered Inflation data for every year in the database. These rates are used to convert cost data entered for any one year into equivalent amounts in any other year.

The FOCIS cost calculation is a multi-step process. The first step is to convert each cost factor from its original Base Year price to a price for a single, user-selected year using data in the Inflation table. After doing the conversions, FOCIS multiplies the appropriate cost drivers and annual cost factors to produce a cost result database where all entries are recorded in prices represented in the selected year. Later, if you want to see data from the cost result database with Inflation included, FOCIS again uses the Inflation table data to convert data in prices of the one year to prices in the years in which costs will appear in budgets. (Note: The

original cost data entries are left unchanged, so they are always available in the form they were originally entered.)

> **Important:**
>
> FOCIS can use cost data from multiple Base Years and can estimate costs in future years as long as Inflation data are entered for those years.

Costs, Cost Accounts, Currencies, and Units

The earlier chapter on Setup data provided a lengthy discussion of the concept of Cost Accounts in FOCIS. They are a key component of all FOCIS costs because they define one consistent characteristic of all Cost data. The cost factor for an Equipment Item's fuel use is a factor for fuel use only because it is tied to a fuel Cost Account. Likewise, all costs for fuel throughout FOCIS are tied to this Cost Account and the Cost Account was created in a way (through its Cost Account number) such that it could easily be tied to the correct portion of the defense budget.

Costs supported by different currencies (sources of funds) are similarly tracked by associating every cost entry with one of the Currencies created. Each element of the cost calculation therefore carries information that ties it closely to the budget. Furthermore, because most cost calculations are done using cost driver information associated with individual Units and this Unit information is stored with the cost result data, **all FOCIS costs can be associated with a Unit**.

This is why when you create a Budget Line Item, you associate it with a sponsoring Unit. This is the Unit that will be tracked in the cost results. When FOCIS calculates a cost like Equipment Procurement based on annual changes in inventory in a Service, it identifies the top Unit in that service and associates procurement costs with that Unit.

If cost factors are created as we recommend throughout this manual, then all basic operating expenses can be tracked to the Unit that benefits from that expense even if some other organization ultimately purchases that commodity for many Units. Fuel is again a good example to illustrate this point. As long as fuel costs are entered in one of the recommended ways (see the "Choosing the "Right" Cost Relationship" section on page 5-3), a good estimate of the fuel costs will be associated with the Unit that uses the fuel even though the fuel may be centrally purchased and distributed.

Cost Drivers Supported by FOCIS Cost Tools

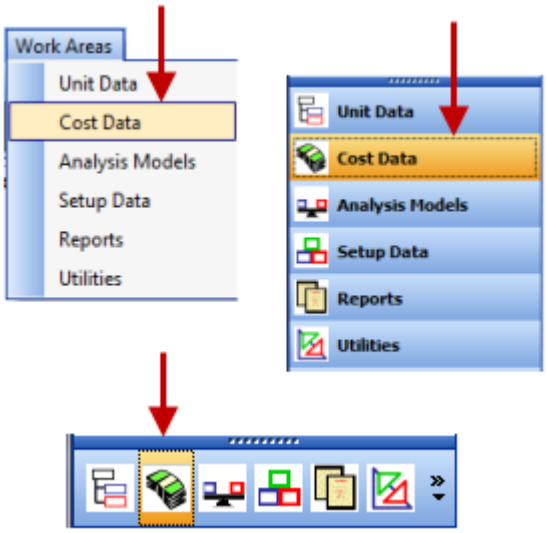
The first step in developing a cost modeling strategy for FOCIS is to link each type of expense to a cost driver. Understanding the cost drivers that FOCIS cost tools can support is therefore an essential step in learning to adapt FOCIS to your unique circumstances and needs. FOCIS provides tools to link force and program characteristics to funding requirements using the following types of cost estimating tools:

Table 5-1. Cost Areas and Cost Drivers

Cost Area	Cost Driver Supported
Personnel Costs	Unit Manning
Equipment Operating Costs	Unit Equipment Inventory and Equipment Use
Equipment Overhauls	Overhaul Quantities
Unit Operating Costs	Force Size, Unit Activities, Unit Manning
Equipment Procurement	Equipment Purchase Quantities
War Reserve Material Procurement	War Reserve Material Purchase Quantities
Budget Line Items	Discrete Projects or Administrative Expenses

The Cost Areas in Table 5-1 correspond to some of the choices available in FOCIS's Cost Data Work Area, as shown in Figure 5-5. You will notice two other entries in the menu—Proportional Costs and Inflation Rates. Proportional Costs are costs that depend on some other cost calculation. An example is National Insurance, which is funded based on a percentage of pay. Inflation Rates provide users with the ability to use historical rates and forecasts for future Inflation.

Access to Cost Data Windows



FOCIS Cost Data windows are available in the Cost Data Work Area. You can open this Work Area through the FOCIS Main Menu shown on the top left in Figure 5-4, or through the Explorer Bar shown on the right and at the bottom of the figure. Any of the selections shown with the arrows will open the Cost Data Work Area with its functions menu (Figure 5-5). This menu provides direct access to all Cost Data functions.

Figure 5-4. Accessing the Cost Data Window

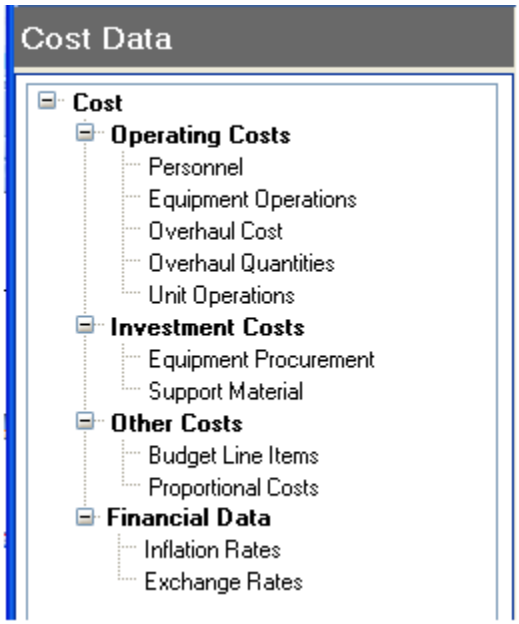


Figure 5-5. Cost Data Functions Menu

Cost Data windows have several common characteristics, which are described here and only repeated for special emphasis in the later discussions.

Common Cost Data Windows Functions

All functions that are useful in working with each type of Cost Data are available through right-click, or shortcut, menus. In general, if you want to add, copy, transfer, or delete data, you should place the cursor on the data you want to work with and click the right mouse button to display the shortcut menu similar to that shown in Figure 5-6. The **Copy** and **Transfer** options are not available when working with Unit Operations Costs.

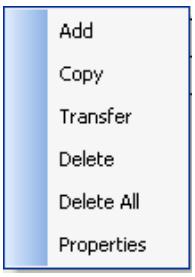


Figure 5-6. Shortcut Menu Options

Any functions that cannot logically be performed at the time you click will be disabled. For example, some functions are not available if there is modified but unsaved data. You can tell whether any data need to be saved by observing the **Save** button at the bottom of the area where you are working. If it appears like this,

, then there are unsaved changes. If it is barely visible, like this,

, then no changes have been made or all changes have been saved.

Properties Window

For Cost Data, as with all FOCIS data, FOCIS records the user who made each change and the date and time when that change was made. Information on the user and time when data were last updated is available by right-clicking on any data entry and selecting the **Properties** option. This will display a small message window like the one shown in Figure 5-7.

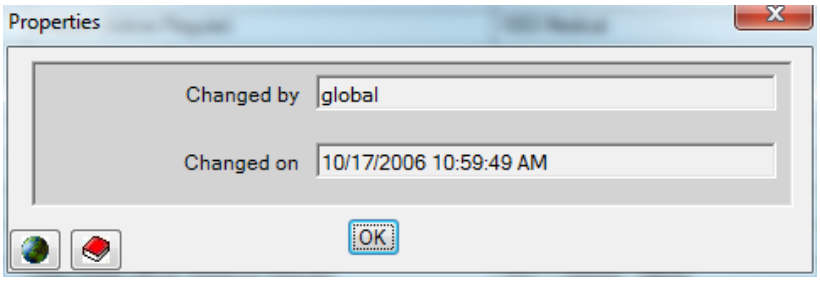


Figure 5-7. Properties Window

Using Support Material with Cost Factors

The Equipment Operations and Unit Operations cost windows offer a unique method for entering cost factors where the cost amount is based on the quantity of a Support Material item and that item's unit cost. These functions are described later in the "Equipment Operations Cost Data" and "Unit Operations Cost Data" sections of this chapter. When in either of these two Cost Data Single Factor windows, the shortcut menu that appears has additional features, as shown in Figure 5-8 and Figure 5-9.

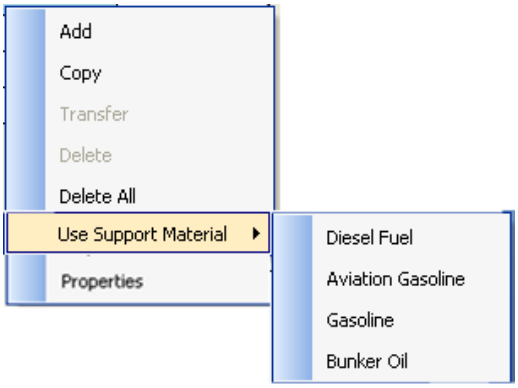


Figure 5-8. Shortcut Menu with Use Support Material Option

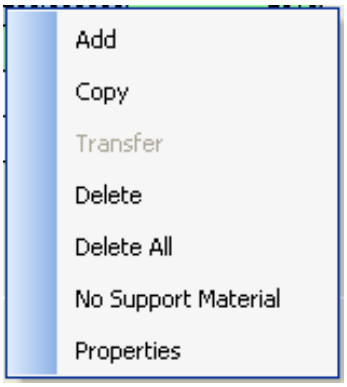


Figure 5-9. Shortcut Menu with No Support Material Option

Saving and Restoring Data

Cost data are entered in spreadsheet-like grids like the one shown in Figure 5-10.

Cost Account	Cost Factor Type	Metric	Cost	Base Year
1001.1 Personnel Salaries - Military	Per Person	Per Year	12,096.000000	2005
1003 Personnel - Medical	Per Person	Per Year	2,450.000000	2005
1004 Personnel - Uniforms	Per Person	Per Year	2,000.000000	2005

Figure 5-10. Sample Data Entry Grid

Notice that the first three columns appear in a different color than the last two. Cells with a non-white background are not directly editable and generally reflect choices that were made in creating a cost entry. Data in cells with white backgrounds can be edited by clicking directly in the cell. The cells with cost data display the data with the highest numerical resolution possible (six decimal places). In most cases, this full resolution will not be needed and, when clicking in the cell, the display changes to show only the resolution of the data that exist so that the extra zeros will not be shown. Prior to clicking in the cell the display may look like this: 2,000.000000, but after clicking on any of the figures it will change to this: 2000.

Anytime a previously saved value is modified, the changed number shows in red like 2100 while the mouse pointer is still in the cell, or like 2,100.000 when it is not still in the changed cell. You can modify more than one entry at one time. If you subsequently try to change to another window, or select a different set of cost factors other than the ones displayed, FOCIS will prompt you with a message (Figure 5-11) asking if you want to save or discard the changes.

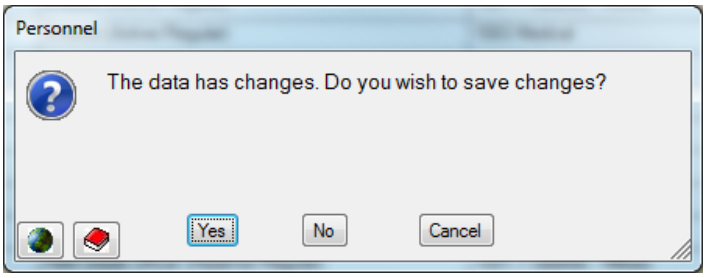


Figure 5-11. Save Changes Message

When any data on the current display are changed, the **Save** and **Restore** buttons (shown in Figure 5-12) become active below the area where you are working. Clicking **Save** will store the new values in the database. Clicking **Restore** will return the data to the last saved values.

Figure 5-12. Save and Restore Buttons

Save and Fill-Right Hot Keys

Instead of clicking the **Save** button, you can press the **Ctrl** and "**S**" keys together (**Ctrl+S**) to save new or edited data.

On windows where cost can be entered for multiple years (i.e., Budget Line Item costs, Overhaul Quantities, Equipment Procurement, and Proportional costs), you can press the **Ctrl** and "**R**" keys together (**Ctrl+R**) to copy data in the currently selected cell to all cells to the right of it (subsequent years).

Resizing Data Displays

Several of the Cost Data windows provide the option to resize the display columns to increase their width to accommodate large numbers or to reduce their width when only small numbers are used. Where appropriate, the **Resize** button is displayed along the bottom of the window as shown in Figure 5-13.

Figure 5-13. Resize Button

Direct Access to Setup Data

When working with Cost data, there will be times that you may want to change some aspect of the Setup Data. FOCIS allows you to open Setup windows from any location where you might need them without closing the window in which you are working. For example, if you were adding a Personnel cost factor, you would work with the window shown in Figure 5-14. If you decided that you needed to add a new Cost Account or you saw a spelling error you wanted to correct, you could click on the icon and open the Cost Accounts Setup window. Wherever you see this icon, it will open the Setup Data window associated with that data.

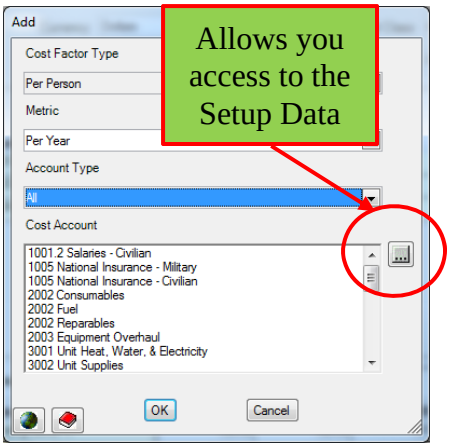


Figure 5-14. Add Window (Setup Data)

Default Currency

All Cost data are associated with a Currency. Each window provides a drop-down list selector with all Currencies that have been created. When Cost data are first being entered, it is handy to have the primary Currency displayed as the default Currency in the selector. FOCIS uses the Currency listed first in the Currency Setup window as the default Currency. You can change the order of Currencies at any time to cause the desired Currency to show as the default.

Cost Base Year

Every cost entry is accompanied by a cost Base Year (see the discussion of Base Year in the "Inflation in FOCIS" section of this chapter on page 5-9). The Base Year you choose is selected from a drop-down list of years taken from the Inflation table. This is done to ensure that FOCIS can make Inflation adjustments on all Cost data entered. If you need to use a Base Year that is not shown in the drop-down list, open the Inflation window (also in the Cost Data Work Area) and use the **Add Years** function. Even if Inflation data are not yet available to enter accurate values, you will still need to add the years you need to the Inflation table before you can use that year as a cost Base Year.

Annual Factors and Funding Levels

FOCIS methodology considers the Personnel, Equipment Operations, Equipment Overhaul, and Unit Operations costs to be subsets of a larger group called Operating Costs. These costs recur year after year based on the yearly force characteristics. FOCIS treats many aspects of these costs in the same way and their windows are almost identical.

Each window allows you to enter Standard cost factors that represent the level of funding that should be provided to ensure that item or activity is fully supported. However,

sometimes there is not enough money to fully fund all expenses at the Standard cost level. FOCIS recognizes this situation by allowing users to enter an Annual cost factor for any Operating Cost.

Annual cost factors are set by either entering a specific cost value or entering what FOCIS calls a Funding Level. Funding Levels are simply the percentage of the Standard cost that is to be included in the cost estimate in each year. The lower half of each Operating Cost data entry window allows you to work with the Annual Factors. The description below applies to each of these types of data entry windows.

The Annual Factors portion of the Operating Cost windows allows you to modify the Standard factors so that they have different values in each year when they are used in the cost calculation. These data can be viewed with two levels of detail. If the Full Details condition is not checked, then data will be shown for annual Funding Levels and the actual cost factor value with and without inflation, as shown in Figure 5-15.

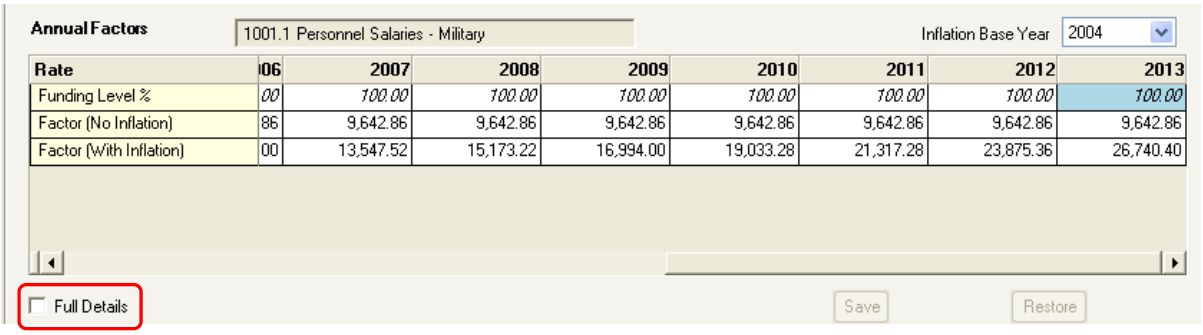


Figure 5-15. Annual Factors Portion of Window – Without Full Details

When the Full Details condition is checked (Figure 5-16), additional data are included that show the same three rows as above plus the Annual Inflation rates and Index values. Also shown is the Standard Cost (Std Cost) converted from the Base Year value entered with the Standard cost to the Inflation Base Year value computed for the Annual Factors portion of the display. This enhanced display provides all of the data you will need in order to understand how the entries in the two rows, Factor (No Inflation) and Factor (With Inflation), have been derived.

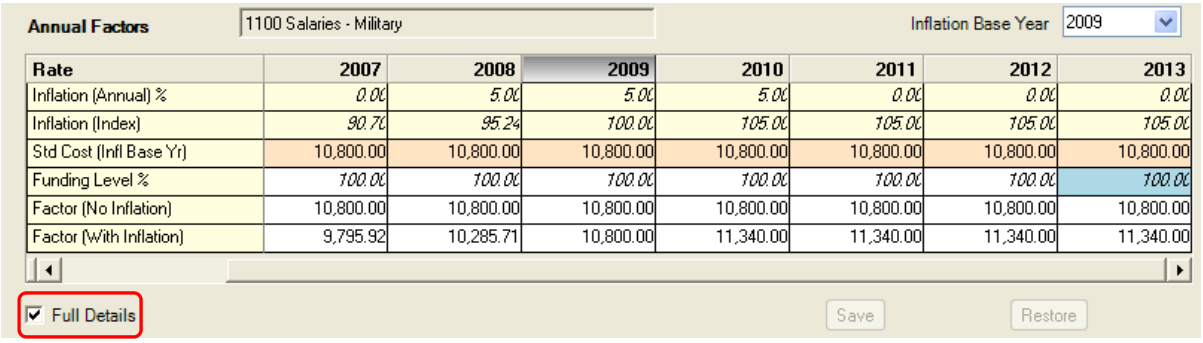


Figure 5-16. Annual Factors Portion of Window – With Full Details

With the Inflation Base Year set, these values are calculated as follows:

Std Cost (Infl Base Yr)	=	[Std Cost (Factor Base Yr)]	/	[Inflation (Index) $_{\text{Inflation Base Year}}$]
Factor (No Inflation)	=	[Std Cost (Infl Base Yr)]	*	[Funding Level %/100]
Factor (With Inflation)	=	[Factor (No Inflation)]	*	[Inflation (Index)]

The “Inflation (Annual) %” row shows the annual Inflation rates that apply to the Cost Account of the selected cost factor. If no Inflation data have been entered for this Cost Account, the default rates for the Currency are shown. These data are from the Inflation window.

The “Inflation (Index) %” row shows the Index values that are calculated from the Annual rates when the Base Year is the one shown in the Inflation Base Year selector. (You can change this Base Year). The Index value in the Inflation Base Year is always defined as 100 and the Index values in other years are calculated from this starting point using the Annual rates.

The “Std Cost (Infl Base Yr)” row shows the Standard Cost in terms of the Inflation Base Year selected in the Annual Factors portion of the window.

The data in the last three rows are inter-dependent, user-entered values. A value entered in any row will automatically change the values seen in the other two rows. This provides flexibility in how Annual Factors are thought of and used.

The “Funding Level %” can be a direct user entry or, if data were entered on either of the two “Factor” rows, it shows the ratio of the Factor (No Inflation) to the Std Cost (Infl Base Yr) rows.

The Factor (No Inflation) row can be a direct user entry or, if data were entered in the Funding Level or Factor (With Inflation) rows, it shows the value of the cost factor in the price level of the Inflation Base Year entry.

The Factor (With Inflation) row can be a direct user entry or, if data were entered in the Funding Level or Factor (No Inflation) rows, it shows the value of the cost factor with inflation included.

Annual Factors have default values exactly equal to the Standard Factor. This is the same as thinking of all Funding Levels having the default value of 100%. There is no need to modify or save the Annual Factors if you want to use the default Funding Level. However, if you change any Annual Factor, you will have to save the new values by clicking the **Save** button. If you made changes but do not want to save them, click the **Restore** button and the previously saved values will be restored.

Important:

Annual Factors have default values exactly equal to the Standard Factor and default Funding Levels of 100%. There is no need to modify or save the Annual Factors if you want to use the default Funding Level.

Tabs on Operating Cost Windows

All Operating Cost windows have three tabs that support different ways of working with their cost data—Single Factor, All Factors, and All Funding Levels. The Personnel and Unit Operations cost windows also have an Add Factors tab to speed initial data entry. Details of these tabs are given in the corresponding sections that follow. Instructions for exporting each tab's data are provided in the "Exporting Cost Data" section beginning on page 5-28.

Using the Single Factor Tab

The Single Factor tabs work in almost identical ways with only small variations to fit the unique characteristics of each type of cost.

This section describes the use of the Single Factor tab, using Personnel cost factors to illustrate its use (Figure 5-17).

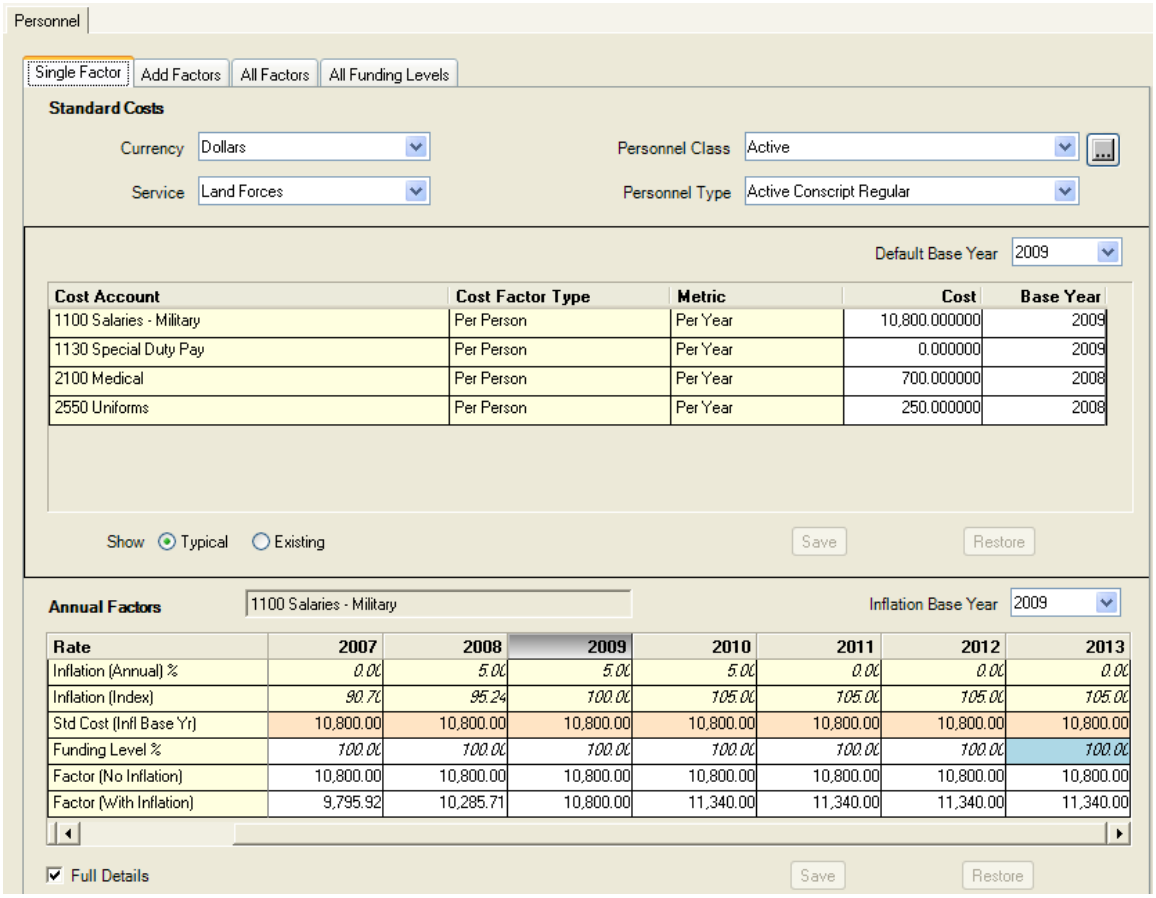


Figure 5-17. Personnel Cost Window – Single Factor Tab

The Single Factor tab is used to enter costs for a single item, be it a Personnel Type, Equipment Item, Overhaul Cost, or Unit.

The top portion of the window is used to select the item, such as a Land Forces General Officer on Active status.

The next portion of the window shows the individual Cost Accounts and the cost factor value for that single item in a specified Base Year.

The bottom portion shows the Annual rates that will be used in cost calculations and includes the effects of Inflation and funding level.

Each of these portions is described in more detail within the sections of this chapter that concern individual types of Operating Costs.

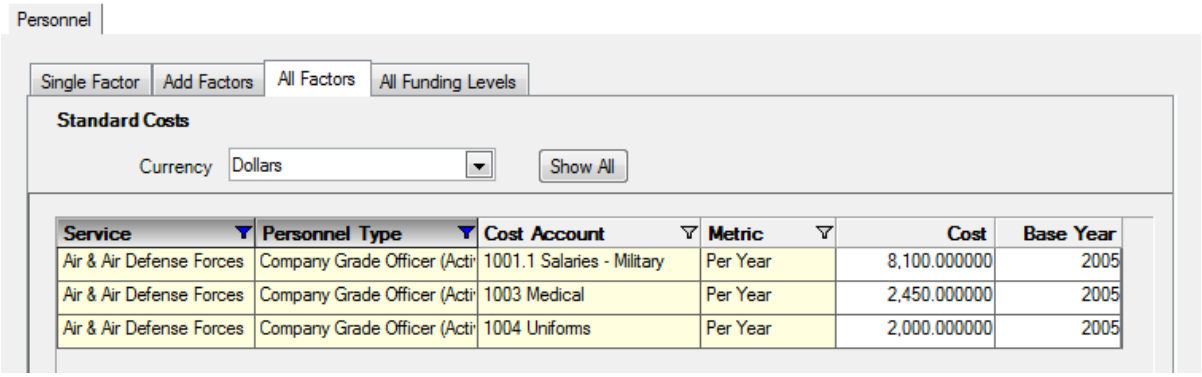
Using the All Factors Tab

The All Factors tabs in the various cost windows work in almost identical ways with only small variations to fit the unique characteristics of each type of cost.

This section describes the use of the All Factors tab, using Personnel cost factors to illustrate its use.

After many Standard cost factors have been entered, there are times when it is helpful to view and edit selected portions of the factors at one time. The All Factors tab provides this capability.

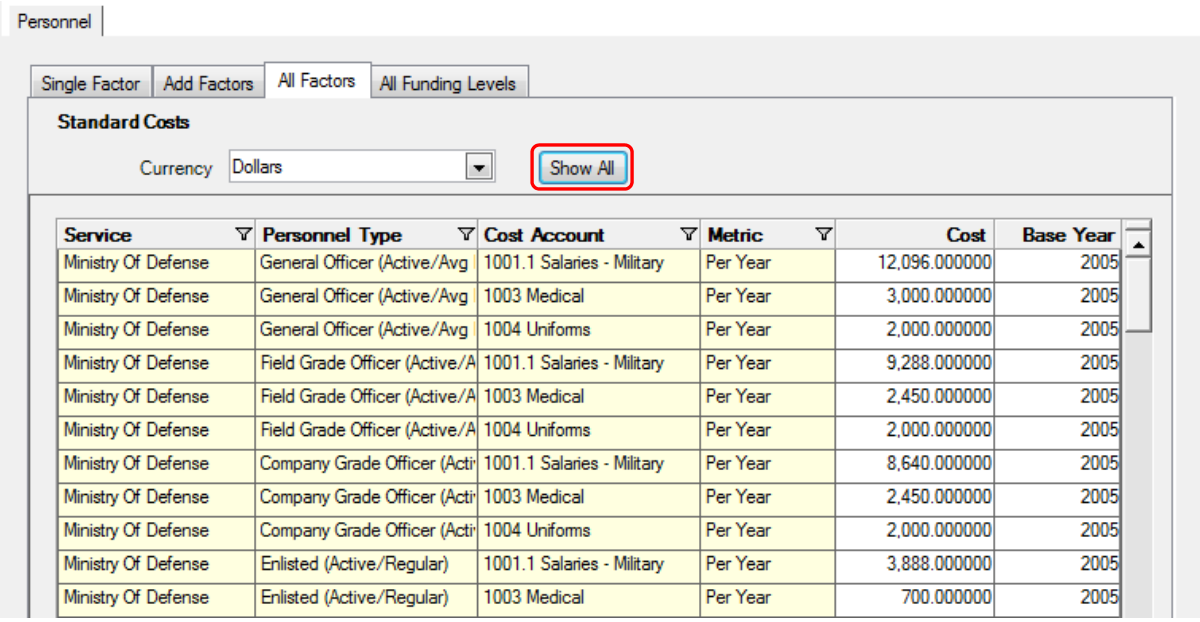
When you change from the Single Factor to All Factors tab, the initial display (Figure 5-18) shows the factors for the Currency, Service, and Personnel Type that was last selected on the Single Factors window.



Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Air & Air Defense Forces	Company Grade Officer (Acti	1001.1 Salaries - Military	Per Year	8,100.000000	2005
Air & Air Defense Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Air & Air Defense Forces	Company Grade Officer (Acti	1004 Uniforms	Per Year	2,000.000000	2005

Figure 5-18. Personnel Cost Window – All Factors Tab

When you click the **Show All** button, all cost factors are shown (Figure 5-19).



Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Ministry Of Defense	General Officer (Active/Avg	1001.1 Salaries - Military	Per Year	12,096.000000	2005
Ministry Of Defense	General Officer (Active/Avg	1003 Medical	Per Year	3,000.000000	2005
Ministry Of Defense	General Officer (Active/Avg	1004 Uniforms	Per Year	2,000.000000	2005
Ministry Of Defense	Field Grade Officer (Active/A	1001.1 Salaries - Military	Per Year	9,288.000000	2005
Ministry Of Defense	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2005
Ministry Of Defense	Field Grade Officer (Active/A	1004 Uniforms	Per Year	2,000.000000	2005
Ministry Of Defense	Company Grade Officer (Acti	1001.1 Salaries - Military	Per Year	8,640.000000	2005
Ministry Of Defense	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Ministry Of Defense	Company Grade Officer (Acti	1004 Uniforms	Per Year	2,000.000000	2005
Ministry Of Defense	Enlisted (Active/Regular)	1001.1 Salaries - Military	Per Year	3,888.000000	2005
Ministry Of Defense	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005

Figure 5-19. All Factors Tab (Show All Selected)

The data can be sorted by clicking on any column header, and the range of the data displayed can be controlled by clicking on the (Filter) icon in any column header. When you click the in a column and select one of the available entries, only data matching that entry will be shown in the grid.

For example, if you clicked the icon in the Cost Account column header you would see a list like the one shown in Figure 5-20. If you then clicked on the "1003 Medical" item, the All Factors display would show only the factors in that Cost Account. After then clicking the Column header for Personnel Type to order the display based on these entries, it is easy to review all entries of Medical costs to ensure they are correctly recorded by Personnel Type (Figure 5-21).

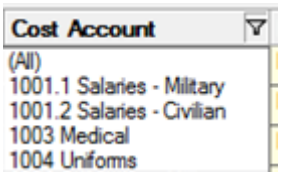


Figure 5-20. Cost Account Filter Options

Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Ministry Of Defense	General Officer (Active/Avg	1003 Medical	Per Year	3,000.000000	2005
General Staff	General Officer (Active/Avg	1003 Medical	Per Year	2,450.000000	2005
Land Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,450.000000	2005
Air & Air Defense Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,450.000000	2005
Naval Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,450.000000	2005
Ministry Of Defense	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2005
General Staff	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2005
Land Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2010
Air & Air Defense Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2005
Naval Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,450.000000	2005
Ministry Of Defense	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
General Staff	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Land Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Air & Air Defense Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Naval Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,450.000000	2005
Ministry Of Defense	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005
General Staff	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005
Land Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005
Air & Air Defense Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005
Naval Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	700.000000	2005
Ministry Of Defense	Conscript (Active/Regular)	1003 Medical	Per Year	700.000000	2005

Figure 5-21. Filtered Cost Account Data (1003 Medical only)

You can also use the All Factors tab to quickly update several factors. You can edit any Cost or Base Year simply by clicking in a cell and revising the entry, but if you limit the display to only those factors that should have the same values, you can change the top entry and use the **Fill Down** option to automatically apply the new value to all the selected cells.

For example, assume that the Medical cost for all General officers was supposed to be 3,000. You could set the Personnel Type filter to General Officer and the Cost Account filter to Medical and then revise the Cost in the top cell to 3,000 (Figure 5-22). Then click the **Fill Down** button (Figure 5-23) at the bottom of the window to obtain the results in Figure 5-24.

Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Ministry Of Defense	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3000	2005
General Staff	General Officer (Active/Avg Pay)	1003 Medical	Per Year	2,500.000000	2005
Land Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	2,500.000000	2005
Air & Air Defense Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	2,500.000000	2005
Naval Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	2,500.000000	2005

Figure 5-22. Cost Data Showing Top Modified Cell

Figure 5-23. Fill Down and Fill Down All Buttons

Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Ministry Of Defense	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3,000.000000	2005
General Staff	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3,000.000000	2005
Land Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3,000.000000	2005
Air & Air Defense Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3,000.000000	2005
Naval Forces	General Officer (Active/Avg Pay)	1003 Medical	Per Year	3,000.000000	2005

Figure 5-24. Cost Data after Using Fill Down Button

The values are all changed permanently when you click the **Save** button.

If the Base Year value had also been changed in the first row, use the **Fill Down All** button to apply the changes to all rows.

Another use of the All Factors tab is in fine-tuning cost factors during the validation of the cost modeling. For example, suppose that, after making an estimate of Medical costs and performing a calculation, you find that the overall estimated Medical costs for the control year[5] was high by 5%. After reviewing all of the data, you decide that the best approach to refining the modeling of Medical costs is to adjust all Medical costs for all Personnel in all Services by 5%. If you want to do this, you could set the filter for Personnel Type and Service to "All" and then use the shortcut menu option, **Modify** (shown in Figure 5-25), to make the changes.

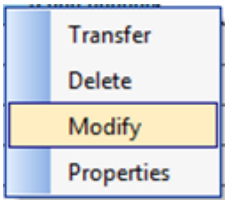


Figure 5-25. Modify Shortcut Menu Option

The **Modify** function is only activated when a single Cost Account is chosen. Clicking **Modify** will open the window shown in Figure 5-26. This window shows the current settings of all of the column filters and provides a place to enter an adjustment factor. In our example, we want to set all existing values to 95% of their current values, so we have entered 95.00%.

[5] A control year is a past period where actual costs by account are known and used as a validation for the FOCIS calculation of costs by account.

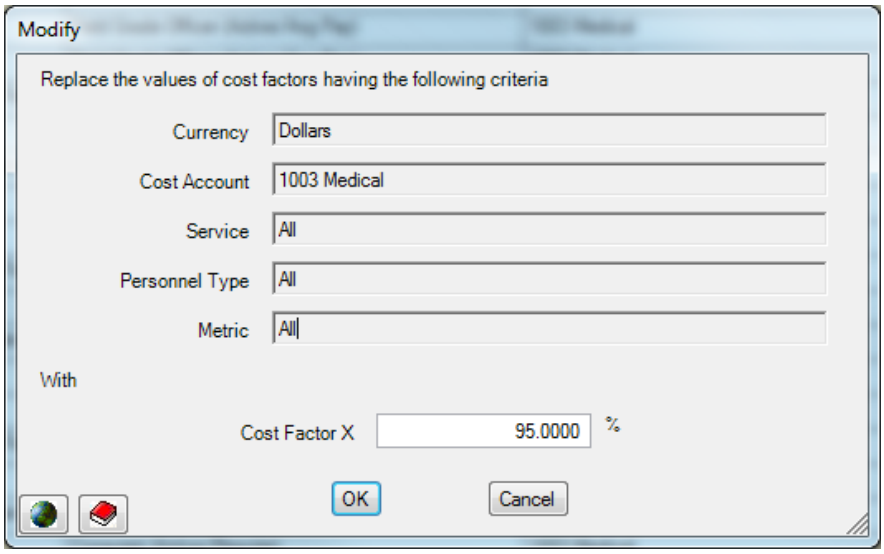


Figure 5-26. Modify Window

After you click **OK**, the revised values are shown in the All Factors grid (Figure 5-27). If these are not the values you intended, click the **Restore** button and the previously saved values will be returned. If these values are correct, click the **Save** button.

Service	Personnel Type	Cost Account	Metric	Cost	Base Year
Ministry Of Defense	General Officer (Active/Avg	1003 Medical	Per Year	2,850.000000	2005
General Staff	General Officer (Active/Avg	1003 Medical	Per Year	2,850.000000	2005
Land Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,850.000000	2005
Air & Air Defense Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,850.000000	2005
Naval Forces	General Officer (Active/Avg	1003 Medical	Per Year	2,850.000000	2005
Ministry Of Defense	Field Grade Officer (Active/A	1003 Medical	Per Year	2,327.500000	2005
General Staff	Field Grade Officer (Active/A	1003 Medical	Per Year	2,327.500000	2005
Land Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,327.500000	2010
Air & Air Defense Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,327.500000	2005
Naval Forces	Field Grade Officer (Active/A	1003 Medical	Per Year	2,327.500000	2005
Ministry Of Defense	Company Grade Officer (Acti	1003 Medical	Per Year	2,327.500000	2005
General Staff	Company Grade Officer (Acti	1003 Medical	Per Year	2,327.500000	2005
Land Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,327.500000	2005
Air & Air Defense Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,327.500000	2005
Naval Forces	Company Grade Officer (Acti	1003 Medical	Per Year	2,327.500000	2005
Ministry Of Defense	Enlisted (Active/Regular)	1003 Medical	Per Year	665.000000	2005
General Staff	Enlisted (Active/Regular)	1003 Medical	Per Year	665.000000	2005
Land Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	665.000000	2005
Air & Air Defense Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	665.000000	2005
Naval Forces	Enlisted (Active/Regular)	1003 Medical	Per Year	665.000000	2005
Ministry Of Defense	Conscript (Active/Regular)	1003 Medical	Per Year	665.000000	2005

Fill Down | Fill Down All | Save | Restore

Figure 5-27. New Cost Values after "Modify" Function is Used

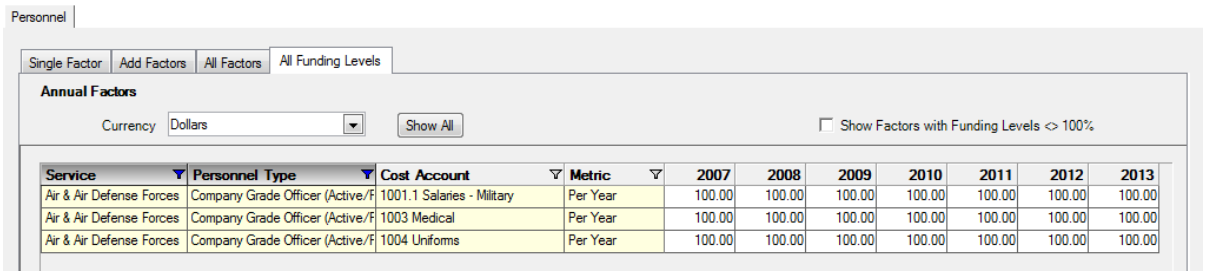
Using the All Funding Levels Tab

The All Funding Levels tabs in the various cost windows work in almost identical ways, with only small variations to fit the unique characteristics of each type of cost.

This section describes the use of the All Funding Levels tab, using Personnel cost factors to illustrate its use.

Sometimes it is useful to be able to view or revise the Funding Levels for many cost factors at one time. If the overall policy guiding the development of a mid-term program plan is to gradually increase the funding level for uniforms from a current level of 60% of the Standard Cost up to 90% by the end of the planning period, it is easier to make all of those changes using the All Funding Levels tab than to modify the data for each Service and Personnel Type, one at a time.

The All Funding Levels tab initially displays the Funding Levels for the Currency, Service, and Personnel Type selected on the Single Factor tab (Figure 5-28). Selecting the **Show Factors with Funding Levels <>100%** check box filters the display to only show factors with funding levels not set to 100%.



Service	Personnel Type	Cost Account	Metric	2007	2008	2009	2010	2011	2012	2013
Air & Air Defense Forces	Company Grade Officer (Active/F	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Air & Air Defense Forces	Company Grade Officer (Active/F	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Air & Air Defense Forces	Company Grade Officer (Active/F	1004 Uniforms	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Figure 5-28. Initial Display of All Funding Levels Tab

Clicking the **Show All** button causes all Funding Levels to be displayed (Figure 5-29).

Service	Personnel Type	Cost Account	Metric	2007	2008	2009	2010	2011	2012	2013
Ministry Of Defense	General Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	General Officer (Active/Avg Pay)	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	70.00	75.00	80.00	85.00	90.00	100.00	100.0
Ministry Of Defense	Field Grade Officer (Active/Avg F	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Field Grade Officer (Active/Avg F	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Field Grade Officer (Active/Avg F	1004 Uniforms	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Company Grade Officer (Active/F	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Company Grade Officer (Active/F	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Company Grade Officer (Active/F	1004 Uniforms	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Enlisted (Active/Regular)	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Enlisted (Active/Regular)	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Enlisted (Active/Regular)	1004 Uniforms	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Conscript (Active/Regular)	1001.1 Salaries - Military	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0
Ministry Of Defense	Conscript (Active/Regular)	1003 Medical	Per Year	100.00	100.00	100.00	100.00	100.00	100.00	100.0

Figure 5-29. Display of All Funding Levels Tab after Clicking Show All Button

The data can be sorted by clicking on any column header, and the range of the data displayed can be controlled by clicking on the (Filter) icon in any column header. When you click the icon in a column and select one of the available entries, only data matching that entry will be shown in the grid.

For example, if you click the icon in the Cost Account column header, you will see a list like the one shown in Figure 5-30. If you then click on the "1004 Uniforms" item, the All Funding Levels display will show only these data. After then clicking the column header for Personnel Type to order the display based on these entries, it is easy to review all entries of Uniform Funding Levels to ensure they are correctly recorded.

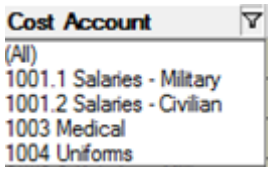


Figure 5-30. Cost Account Filter Options

You can also use the All Funding Levels tab to quickly update many entries. You can edit the Funding Level in any year simply by clicking in a cell and revising the entry, but if you limit the display to only those types of factors that should have the same values, you can change the top entry and use the **Fill Down** or **Fill Down All** button (Figure 5-31) to automatically apply the new value(s) to all the selected funding levels.

Figure 5-31. Fill Down and Fill Down All Buttons

For example, assume that the Funding Level for uniform costs for all General Officers was supposed to increase from 60% to 90% over several years. You could set the Personnel Type filter to General Officer and the Cost Account filter to Uniforms, and then revise the Funding Levels (as shown in Figure 5-32) and use the **Fill Down All** button at the bottom of the window.

Service	Personnel Type	Cost Account	Metric	2007	2008	2009	2010	2011	2012	2013
Ministry Of Defense	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90.00
General Staff	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	100.00	100.00	100.00	100.00	100.00	100.00
Land Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	100.00	100.00	100.00	100.00	100.00	100.00
Air & Air Defense Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	100.00	100.00	100.00	100.00	100.00	100.00
Naval Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	100.00	100.00	100.00	100.00	100.00	100.00

Figure 5-32. Modified Filtered Data before Using Fill Down All Button

The values would all be changed as soon as the **Fill Down All** button was used (as shown in Figure 5-33. If these values are correct, you would then click the **Save** button.

Service	Personnel Type	Cost Account	Metric	2007	2008	2009	2010	2011	2012	2013
Ministry Of Defense	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90.00
General Staff	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90.00
Land Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90.00
Air & Air Defense Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90.00
Naval Forces	General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	60.00	65.00	70.00	75.00	80.00	85.00	90

Figure 5-33. Modified Filtered Data after Using Fill Down All Button

Cost Accounts Displayed When Adding New Cost Factors

If you use the **Add** function on the shortcut menu and all Cost Accounts that have been set up to be used automatically with Equipment Costs[6] (for example) have already been used with the selected Equipment Type and Service, you will see the message shown in Figure 5-34. This message is simply a reminder that FOCIS will not be able to initially display Cost Accounts marked for use with Equipment and instead will show all Cost Accounts.

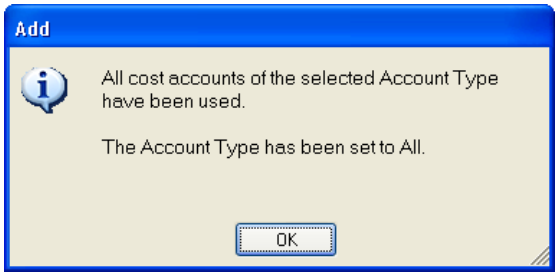


Figure 5-34. "All Accounts Have Been Used" Message

When you click **OK**, the normal Add window will open and you will be able to use any existing Cost Account to create a new cost factor or you will be able to use the icon to go to the Cost Accounts Setup window to add new accounts or revise your preferred uses.

You should be aware that when you use a Cost Account not currently marked for use with Equipment Costs, FOCIS will mark this Cost Account as one used with Equipment Costs. You do not need to revise the Cost Account uses in Setup if you are satisfied letting FOCIS do it for you as you add cost factors.

Delete and Delete All

By right-clicking on any Standard Factor row whose value is not zero, you can delete that factor or choose to delete all cost factors for the displayed cost factor characteristics. When you choose to delete cost factors, their values are set to zero and shown in red. You can reverse a deletion by clicking the **Restore** button if you do this before you save the change. You complete the deletion by clicking the **Save** button.

Copy Method Options

When you copy cost factors, there may or may not already be cost factors for the conditions (Personnel Type, Equipment Item, etc.) you have selected to copy to. If there are factors for the cost factor set you are copying to, you need to choose how you want the **Copy** function to affect those existing factors. These options appear as shown in Figure 5-35. (If no prior factors exist, use the **Replace All** option.)

---

[6] See the section on Cost Accounts in Chapter 2 (Setup Data).

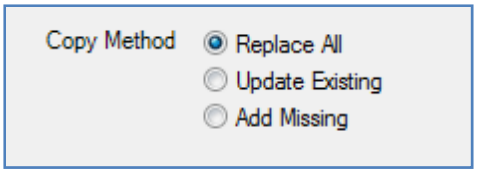


Figure 5-35. Copy Method Options

If you choose:

- **Replace All**, all factors for the "Copy To" conditions will be deleted (if any exist) and replaced by those of the "Copy From" conditions.
- **Update Existing**, all existing values in the "Copy To" cost factors with characteristics that match factors in the "Copy From" factors will take on the values of the matching cost factors of the "Copy From" set. If there are factors in the "Copy From" set of cost factors that are not in the "Copy To" cost factors, they will not be added.
- **Add Missing,** all existing cost factors of the "Copy To" set will be left unchanged but any cost factors in the "Copy From" set that are not in the "Copy To" cost factor set will be added.

Exporting Cost Data

On any cost window, if you want a record of the Cost data that have been entered, you can click on the

icon at the top of the window. The content of all Cost window exports varies to fit the different types of data. Figure 5-36 shows the typical Export Options window.

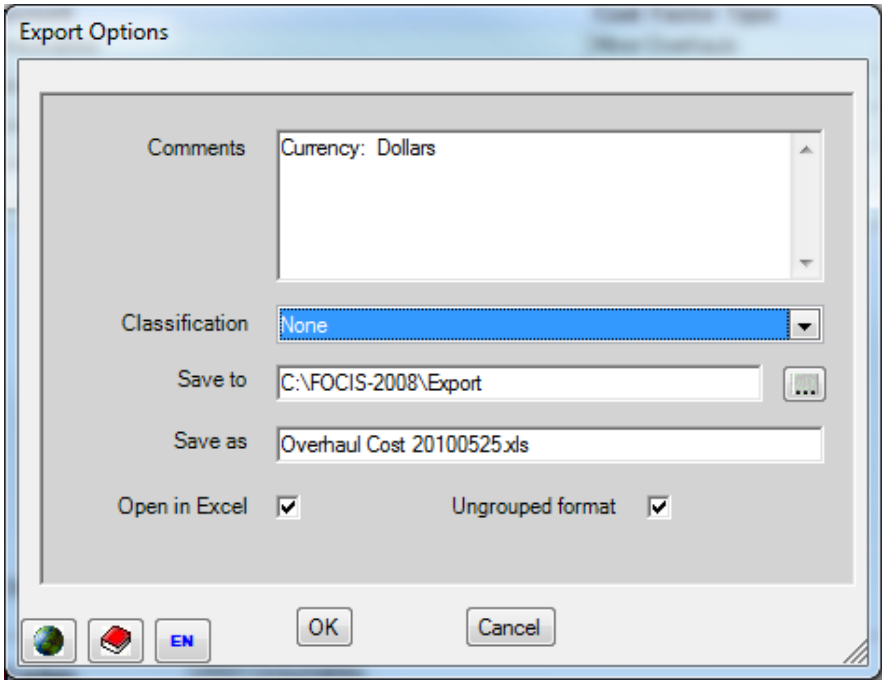


Figure 5-36. Sample Export Options Window

Notice that the Save As name includes the type of data being saved as an Excel spreadsheet along with the date the file is created. The location for the Excel file (the Save To field) and the Classification may be changed as desired.

The exported data will include both Standard Costs and Funding Levels, and the spreadsheet will appear in a format similar to the one shown in Figure 5-37 for Personnel Costs.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Classification: None											
2												
3	Ministry Of Defense											
4												
5		**Personnel Type**	**Cost Account**	**Metric**	**Cost**	**Base Year**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
6		General Officer (Active/Avg Pay)	1001.1 Personnel Salaries - Military	Per Year	12096	2005	100	100	100	100	100	100
7		General Officer (Active/Avg Pay)	1003 Personnel - Medical	Per Year	2450	2005	100	100	100	100	100	100
8		General Officer (Active/Avg Pay)	1004 Personnel - Uniforms	Per Year	2000	2005	100	100	100	100	100	100
9		Field Grade Officer (Active/Avg Pay)	1001.1 Personnel Salaries - Military	Per Year	9288	2005	100	100	100	100	100	100
10		Field Grade Officer (Active/Avg Pay)	1003 Personnel - Medical	Per Year	2450	2005	100	100	100	100	100	100
11		Field Grade Officer (Active/Avg Pay)	1004 Personnel - Uniforms	Per Year	2000	2005	100	100	100	100	100	100
12		Company Grade Officer (Active/Regular)	1001.1 Personnel Salaries - Military	Per Year	8640	2005	100	100	100	100	100	100
13		Company Grade Officer (Active/Regular)	1003 Personnel - Medical	Per Year	2450	2005	100	100	100	100	100	100
14		Company Grade Officer (Active/Regular)	1004 Personnel - Uniforms	Per Year	2000	2005	100	100	100	100	100	100
15		Enlisted (Active/Regular)	1001.1 Personnel Salaries - Military	Per Year	3888	2005	100	100	100	100	100	100
16		Enlisted (Active/Regular)	1003 Personnel - Medical	Per Year	700	2005	100	100	100	100	100	100
17		Enlisted (Active/Regular)	1004 Personnel - Uniforms	Per Year	1000	2005	100	100	100	100	100	100

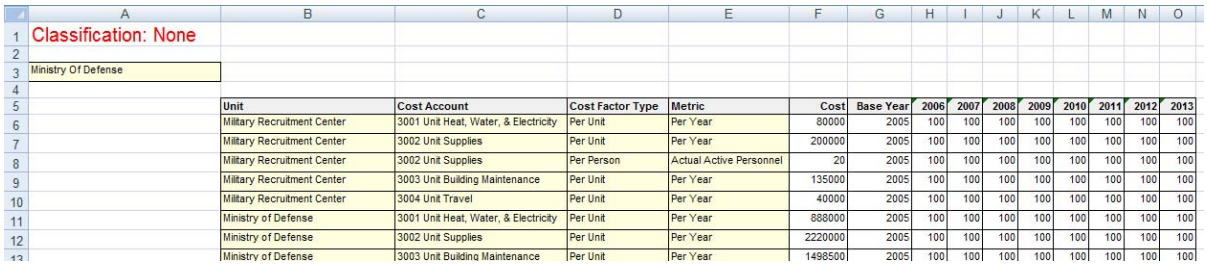
Figure 5-37. Sample Exported Data in Excel Spreadsheet

The Standard Factor cost and Base Year are listed for each set of cost factor characteristics followed by the funding level percentages by year.

A special export format exists for Personnel, Equipment Operations, and Unit Operations cost factors. See the sections under these topics for detailed information about exporting cost factor data in the format also used for cost factor data import.

Exporting Data from the Single Factor Tab

To export data from the Single Factor tab, click on the Export button at the top of the FOCIS window as previously described. The data included in the export will include all factors entered in FOCIS arranged by Service. The exported data will appear in an Excel spreadsheet similar to that shown in Figure 5-38.



Classification: None

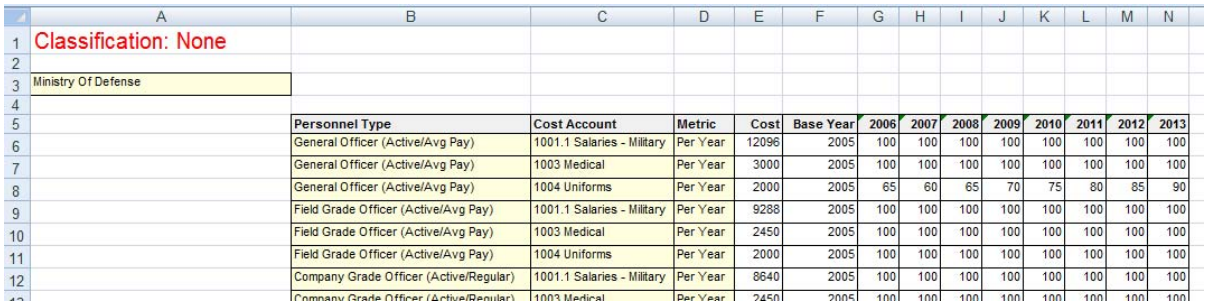
Ministry Of Defense

Unit	Cost Account	Cost Factor Type	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
Military Recruitment Center	3001 Unit Heat, Water, & Electricity	Per Unit	Per Year	80000	2005	100	100	100	100	100	100	100	100
Military Recruitment Center	3002 Unit Supplies	Per Unit	Per Year	200000	2005	100	100	100	100	100	100	100	100
Military Recruitment Center	3002 Unit Supplies	Per Person	Actual Active Personnel	20	2005	100	100	100	100	100	100	100	100
Military Recruitment Center	3003 Unit Building Maintenance	Per Unit	Per Year	135000	2005	100	100	100	100	100	100	100	100
Military Recruitment Center	3004 Unit Travel	Per Unit	Per Year	40000	2005	100	100	100	100	100	100	100	100
Ministry of Defense	3001 Unit Heat, Water, & Electricity	Per Unit	Per Year	888000	2005	100	100	100	100	100	100	100	100
Ministry of Defense	3002 Unit Supplies	Per Unit	Per Year	2220000	2005	100	100	100	100	100	100	100	100
Ministry of Defense	3003 Unit Building Maintenance	Per Unit	Per Year	1498500	2005	100	100	100	100	100	100	100	100

Figure 5-38. Example of Exported Single Factor Data in Excel Spreadsheet

Exporting Data from the All Factors Tab

To export data from the All Factors tab, click on the Export button at the top of the FOCIS window as previously described. The data included in the export will only include those factors in the display based on the filters you have selected. The exported data will appear in an Excel spreadsheet similar to that shown in Figure 5-39.



Classification: None

Ministry Of Defense

Personnel Type	Cost Account	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
General Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	12096	2005	100	100	100	100	100	100	100	100
General Officer (Active/Avg Pay)	1003 Medical	Per Year	3000	2005	100	100	100	100	100	100	100	100
General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	65	60	65	70	75	80	85	90
Field Grade Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	9288	2005	100	100	100	100	100	100	100	100
Field Grade Officer (Active/Avg Pay)	1003 Medical	Per Year	2450	2005	100	100	100	100	100	100	100	100
Field Grade Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	100	100	100	100	100	100	100	100
Company Grade Officer (Active/Regular)	1001.1 Salaries - Military	Per Year	8640	2005	100	100	100	100	100	100	100	100

Figure 5-39. Example of Exported All Factors Data in Excel Spreadsheet

Exporting Data from the All Funding Levels Tab

To export data from the All Funding Levels tab, click on the Export button at the top of the FOCIS window as previously described. The format will be exactly the same as when exporting from the Single Factor tab, but the data included will be affected by the column filters you have selected. The exported data will appear in an Excel spreadsheet similar to that shown in Figure 5-40.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Classification: None													
2														
3	Ministry Of Defense													
4														
5		Personnel Type	Cost Account	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
6		General Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	12096	2005	100	100	100	100	100	100	100	100
7		General Officer (Active/Avg Pay)	1003 Medical	Per Year	3000	2005	100	100	100	100	100	100	100	100
8		General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	65	60	65	70	75	80	85	90
9		Field Grade Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	9288	2005	100	100	100	100	100	100	100	100
10		Field Grade Officer (Active/Avg Pay)	1003 Medical	Per Year	2450	2005	100	100	100	100	100	100	100	100
11		Field Grade Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	100	100	100	100	100	100	100	100
12		Company Grade Officer (Active/Regular)	1001.1 Salaries - Military	Per Year	8640	2005	100	100	100	100	100	100	100	100
13		Company Grade Officer (Active/Regular)	1003 Medical	Per Year	2450	2005	100	100	100	100	100	100	100	100

Figure 5-40. Example of Exported All Funding Levels Data in Excel Spreadsheet

Personnel Cost Data

This section describes Personnel cost data, explains how they are created and used in the FOCIS cost calculation, provides suggestions for modeling Personnel costs, and describes how to use the Personnel cost data window.

Using Personnel Cost Data

The Personnel cost window provides the ability to create cost factors that are used with the Unit Manning cost driver. Personnel cost factors are created with six characteristics, listed in Table 5-2.

Table 5-2. Personnel Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Personnel Type (e.g., Officer) • Budgeting Service (e.g., Army)
Cost Factor Characteristics	• Cost Factor Type (i.e., Per Person) • Cost Factor Metric (e.g., Per Year, Per Month, Per Day)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Pay)

Personnel costs are calculated using Personnel cost factors applied to the actual quantity of Personnel (Unit Manning) recorded by Unit and year in the Unit Data Work Area. This means that the same factor is used with any Army Officer, regardless of his or her Unit.

It is important to realize that cost factors for the same Personnel Type, Currency, and Cost Account are created by Service. This allows you to have different pay factors for Army officers than for Air Force and Navy officers, etc.

If some portion of a Personnel cost applies only to individuals in specific Units, you should not use a Personnel cost factor to represent these costs. An example might be a special food allowance for soldiers in a Unit with high intensity training. FOCIS provides another type of cost factor for this situation (See the “Unit Operations Cost Data” section of this chapter for

Unit Operating costs that use a factor type dependent on Personnel). In the case of food costs for soldiers, one Personnel cost factor would be created that represents the standard food allowance that every soldier should receive and then additional Unit Operating cost factors would be created that represent the amount above the average that soldiers in specific Units should receive.

> **Important:**
>
> Personnel cost factors represent costs that apply to a Personnel Type (in a budgeting Service), regardless of their assigned Unit.

FOCIS also provides an alternative way to handle this same situation. If you recall, each Personnel Type represents a Personnel Class (e.g., Active, Reserve, Civilian), a Personnel Category (e.g. officer, NCO), and a Pay Level (e.g., average, pilot). It would be possible to create a Pay Level called "Special Training," and then have one food cost factor for officers with a Pay Level of "Average" and a different food cost factor for officers with a Pay Level of "Special Training." If there were a value in tracking how many officers were receiving this special training allowance, then creating a separate Personnel Type with a Pay Level of "Special Training" would make that type of reporting possible. If there were two sets of officers within the same Unit, one that qualified for the allowance and one that did not, creating two different Personnel Types would definitely be the best way to model this situation.

Choosing the Level to Model Personnel and Personnel Costs

One of the most difficult decisions that must be made when deciding how to model Manpower use and Personnel costs is the level of detail to use in creating Personnel Types. Many new users have the impression that since they have access to data by rank, they should create Personnel Types for each rank and then enter Unit Manning and create cost factors at this level of detail.

Doing so has several major drawbacks. The first is that the time for data entry is multiplied by a very large factor. Second, this approach also increases the potential for errors. Third, having more data makes data validation and maintenance harder.

Another effect is that it may decrease the responsiveness of FOCIS. The time to perform cost calculations and the time it takes to generate analytic reports increases proportionally to the amount of data involved; yet having more detail in the Personnel Types does not necessarily add any value to the data from FOCIS when used for program development.

The underlying reason additional detail is not useful is that the distribution by rank is largely fixed by internal policy or sometimes by national law. The percentage of Personnel by rank is not left to vary for many reasons.

More detail in Personnel Categories is useful in a situation where a country is making a conscious effort to reshape the distribution between ranks. Following a large reduction in forces in Eastern Europe in the 1990s, the number of senior officers (majors and above) was much larger than desired. It was impractical to fix this situation all at one time, so an important part of program planning was phasing in a better mix of junior and senior officers.

In this situation, the mix of ranks was not going to remain constant throughout the planning period, so separate Personnel Categories were established for generals, senior officers, and junior officers. This met the planning need and kept the data collection, entry, and maintenance to a minimum.

The cost factors for these Personnel Categories were developed by knowing the distribution of individual ranks within each grouping as well as by knowing the pay for each of the individual ranks and then creating weighted averages for the combinations of individual ranks. This method of weighted averages can be used for any Cost Account and any aggregation of individual ranks, and is sufficiently accurate for planning and programming purposes.

Using the Personnel Cost Data Window

Many functions of the Personnel cost data window are common to other cost data windows. The description of these common features provided in the "Common Cost Data Windows Functions" section of this chapter on page 5-13 will help you understand the full functionality of the Personnel cost screens. Detailed instructions for using unique aspects of the Personnel cost data and its window are provided in the subsections below.

The Personnel cost data window provides tools you can use to create, review, and modify Personnel cost factors. It has four tabs with complementary functions, as shown in Figure 5-41:

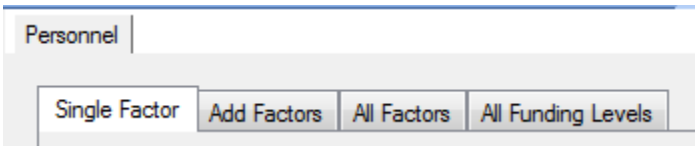


Figure 5-41. Four Tabs on Personnel Cost Data Window

- Single Factor – the primary location for creating and working with all Standard and Annual cost factors for a single combination of Personnel Type and Service
- Add Factors – the location for using an alternative method to create and edit Standard Personnel cost factors for one or all Services and one or more Personnel Types
- All Factors – the location for working with Standard cost factors for all Personnel Types and Services
- All Funding Levels – the location for working with Annual Funding Levels for all Personnel Types and Services

Single Factor Tab

Each of the Personnel cost tabs allows you to edit existing Standard Costs and Annual Factors, but the Single Factor tab and the Add Factors tab are the only tabs that allow you to create new Standard Personnel cost factors. Additionally, the Single Factor tab is the only one that allows you to work with both Standard and Annual factors at the same time.

The Single Factor tab (shown in Figure 5-42) provides the following capabilities for working with cost data for one Service and Personnel Type at a time:

- Standard Cost factors
  - View existing cost factors
  - Edit cost factor values and Base Years
  - Add new cost factors
  - Delete existing cost factors
  - Copy cost factors from one combination of Service/Personnel Type to any other combination of Service/Personnel Type
- Annual Cost factors
  - View Annual Cost data for multiple years
  - Modify Funding Levels or annual factors (with or without inflation) for any year
  - View the Inflation data that affect cost factors in each year (when Full Details check box is selected)

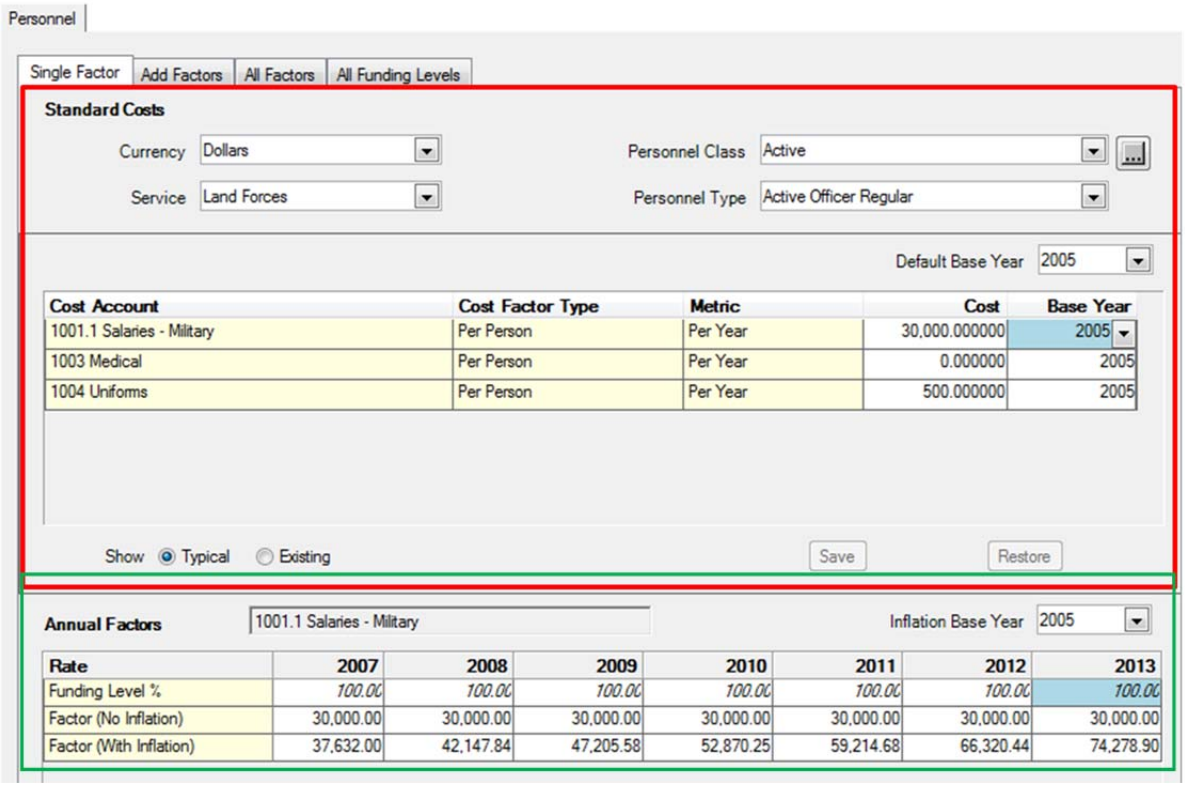


Figure 5-42. Standard Costs and Annual Factors Areas on Single Factor Tab

The window has separate work areas for Standard Costs and Annual Factors. The top area (with the red rectangle around it in Figure 5-42) is used to add, review, and modify Standard costs (see the "Standard Costs" section of this chapter) and their Base Years. The bottom area (with the green rectangle around it) provides information for working with the Annual Factors of any one of the Standard factors.

Select a Currency

Before working with any costs, make sure you review or set the Currency selector to its desired value. In almost every case, Personnel costs will be funded from the national budget; therefore, the Currency will be that of the country using FOCIS. FOCIS shows the default Currency when it opens the Personnel cost window. If your preferred Currency does not show when this window opens, use the Currency Setup window to move your preferred Currency to the top of the list.

Select a Service and Personnel Type

Before working with any costs, make sure you review or set the Service and Personnel Type selectors to their desired values. The Personnel Class selector controls the list of Personnel Types that are available to select. It can be set to **All**, if desired, to see all Personnel Types at one time.

> **Important:**
>
> The Service selected is the Service to which the Personnel Type belongs and the Service that budgets their expenses, regardless of the Personnel's assigned Unit.

Working with Standard Factors

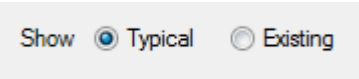


Figure 5-43. View Mode Options

When you select a Currency, Service, and Personnel Type, all factors that exist for that combination are displayed in the grid below the selections. Some zero-value factors may also be shown if the View Mode is set to **Typical** as shown in Figure 5-43. The View Mode options are located at the bottom of the Standard Costs section of the window. You can revise any existing cost factor value by clicking in the Cost column and entering the new value.

Add Standard Factors

There are several ways to add Standard Factors:

- Choose the **Add Factors** tab (Figure 5-44).

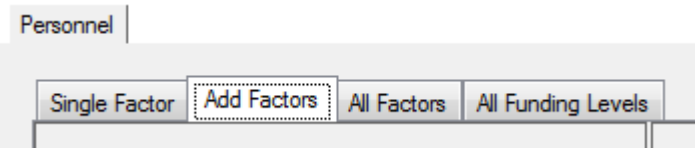


Figure 5-44. Add Factors Tab

- Right-click and choose **Add** from the shortcut menu. The window shown in Figure 5-45 will open.
- Right-click and choose **Copy** from the shortcut menu to copy a previously entered set of Standard Factors.
- Use the View Mode set to **Typical** if you already have Standard Factors entered for at least one Personnel Type of the same Personnel Class and Service as the one you want to add.

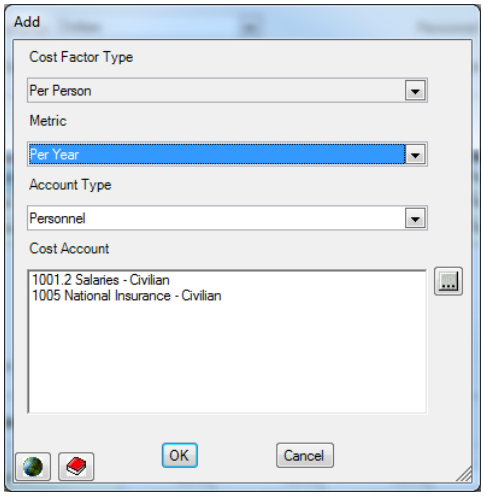


Figure 5-45. Add Window (Personnel Costs)

All Personnel Standard Costs are **Per Person**, and the Cost Factor Type is permanently set to this value. Other types of FOCIS cost factors offer the option of using any of several Cost Factor Types, selectable at the top of the Add window. FOCIS allows Personnel costs to be entered in any one of the three Metrics shown in Figure 5-46. The default choice is **Per Year**, but this can be changed by choosing one of the other options from the selector.

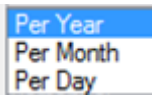


Figure 5-46. Cost Metric Options

If factors are entered **Per Month** or **Per Day**, FOCIS will convert the value to a yearly amount before performing any cost calculations. Standard practice uses 360 days per year when converting a daily value to a yearly value.

If Cost Accounts that have been set for use with Personnel costs have not yet been used for the currently selected Personnel Type and Service, the unused Cost Accounts will show in the list of Cost Accounts. If you do not see the Cost Account you want to use, use the Account Type selector to select one of the other Types or use the button to open the Cost Account Setup window. Place a check mark under the **Personnel** column for the desired account and click **Save** and then **Close**. This account will now show on the Personnel cost factor Add window.

You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Personnel costs. After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Personnel cost window, where you will enter a cost value and Base Year.

The View Mode determines whether only the Standard Factors that have already been created are shown (**Existing**) or whether a row appears for every Cost Account that has been used with any Personnel Type of the same Personnel Class and Service. When set to **Typical**, a row appears for all of the Cost Accounts you are most likely going to need. Entering a Standard Factor only requires that you revise the Cost entry to the correct value, make sure the Base Year is correct, and click **Save**.

When in the **Typical** View Mode, it is possible that some Cost Accounts will have values of zero. These factors have no effect on how FOCIS calculates Personnel costs and can be ignored. If you want to see only those entries with non-zero values, set the View Mode to **Existing**.

Note: Adding Factors using the **Typical** View Mode does not work until cost factors have been created for a Personnel Type of the same Personnel Class and Service as you have selected.

Copy Standard Factors

The **Copy** function is available when you right-click and choose **Copy** from the shortcut menu. FOCIS will make a copy of all cost factors (all combinations of Currency and Cost Account) for the currently selected Personnel Type and Service as well as for any other combination of Personnel Type and Service. When **Copy** is selected, FOCIS opens the window shown in Figure 5-47.

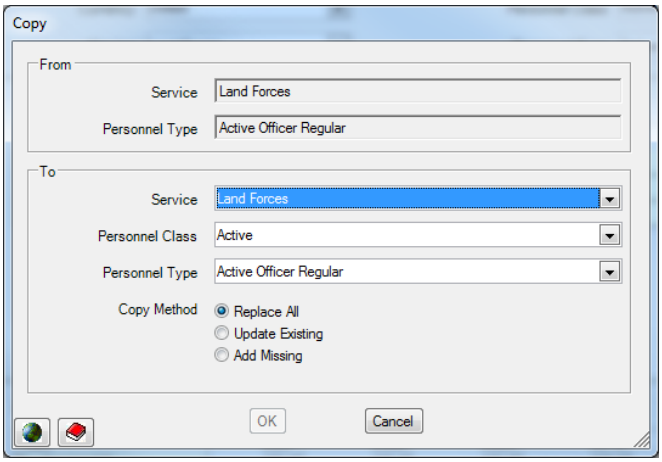


Figure 5-47. Copy Window

The top (From) portion of the window shows the Service and Personnel Type that cost data will be copied from. The bottom (To) portion provides selectors to choose the Service and Personnel Type you will copy the data to. The Personnel Class selector is there to help shorten the list of all Personnel Types available in the Personnel Type selector.

When you copy cost factors, there may not already be cost factors for the Service and Personnel Type you have selected to copy the data to. If there are no existing factors, you can ignore the **Update Existing** option. If there are cost factors for the Service and Personnel Type you have selected to copy to, you then have the standard three copy options: **Replace**

All, **Update Existing**, and **Add Missing**. These options are described in the "Copy Method Options" section on page 5-27.

Transfer Standard Factors

Sometimes data are accidentally entered for the wrong combination of Service and Personnel Type or for the wrong Currency or Cost Account. FOCIS allows you to transfer the cost and Base Year information to any other combination of Service, Personnel Type, Currency, and Cost Account. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. Figure 5-48 displays the Transfer window, where data entered for Land Forces can be transferred to Air & Air Defense Forces.

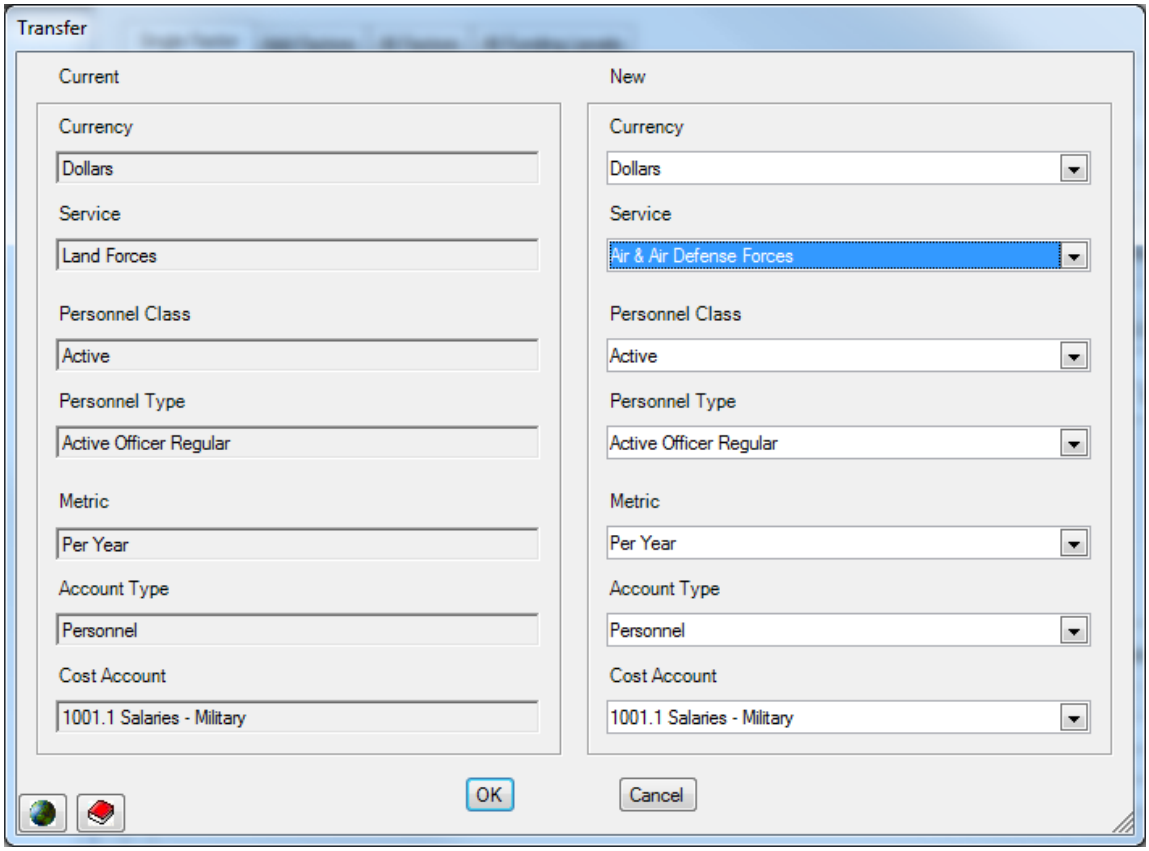


Figure 5-48. Transfer Window

Note: You will not be allowed to transfer an entry to a combination of Service, Personnel Type, Currency, and Cost Account if that combination already exists. If that combination has already been created, the warning in Figure 5-49 is shown:

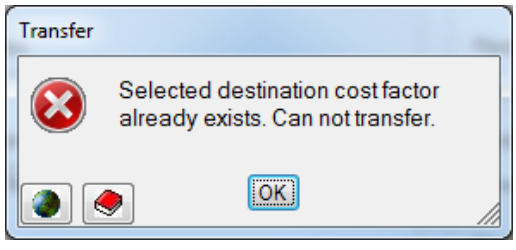


Figure 5-49. Transfer Warning

Working with the Add Factors Tab

The Add Factors tab accesses an alternative means of creating or editing cost factors for one or more Personnel Types. Figure 5-50 shows the Add Factors tab.

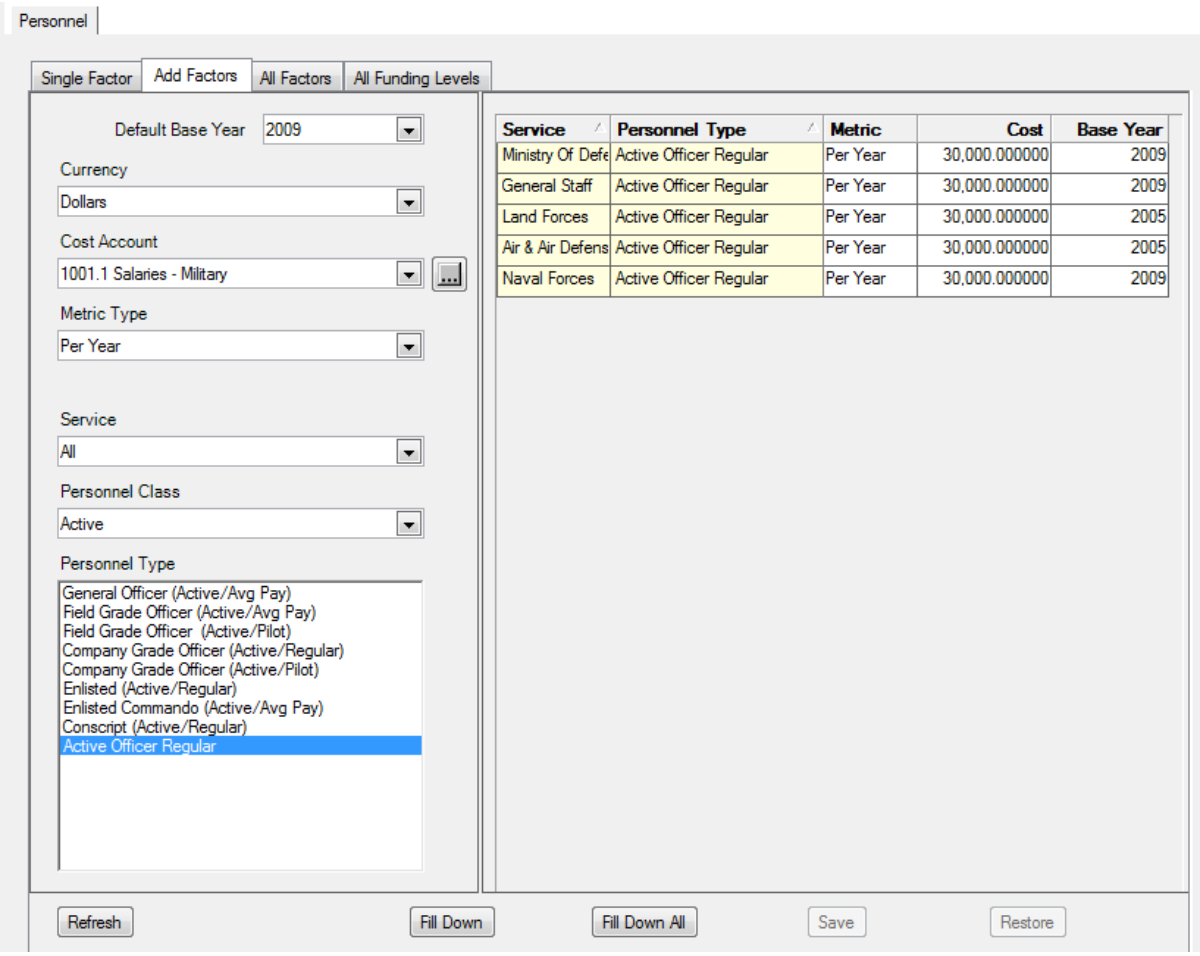


Figure 5-50. Personnel Cost Window (Add Factors Tab)

When you click on the Add Factors tab, the displayed values for the Currency, Cost Account, Metric, and Personnel Type criteria are those that were previously selected on the Single Factor tab. The Service selector is set by default to **All.** A single Service can be selected at any time. A particularly useful tool is the ability to select more than one Personnel Type for display.

To select more than one Personnel Type, hold down the **Ctrl** key and click on one or more entries. Alternatively, select one Personnel Type, hold down the **Shift** key and select a range of adjacent Personnel Types. Both multiple selection methods are illustrated in Figure 5-51.

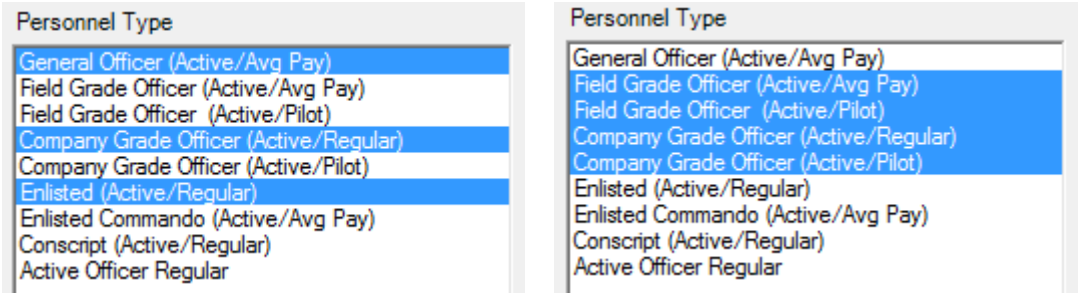


Figure 5-51. Two Methods of Selecting Multiple Personnel Types

This tab is designed to display **all** possible cost factors for:

- One Currency
- One Cost Account
- One Metric
- One or all Services
- Any number of Personnel Types

Where data for the combination of selected Personnel cost factor criteria already exist, the previously entered amounts and Base Years are shown in the grid. Where no previous data were entered, a zero value row is created with the default Base Year. You can quickly and easily enter amounts where none previously existed or can revise the previously entered values.

When changes are made to the cost factor data, the entries change to a red color (as shown in Figure 5-52) and the **Save** and **Restore** buttons are activated. After making a change, you may click the **Fill Down** or **Fill Down All** button to copy the data to the other entries as appropriate. Click the **Save** button to save your changes. If you decide not to make the changes, click the **Restore** button and the previously stored values will be displayed (see buttons shown in Figure 5-53).

Service	Personnel Type	Metric	Cost	Base Year
Ministry Of Defe	Active Officer Regular	Per Month	29,000.000000	2010
General Staff	Active Officer Regular	Per Year	30,000.000000	2009
Land Forces	Active Officer Regular	Per Year	30,000.000000	2009
Air & Air Defens	Active Officer Regular	Per Year	30,000.000000	2009
Naval Forces	Active Officer Regular	Per Year	30,000.000000	2009

Figure 5-52. Grid with Modified Data

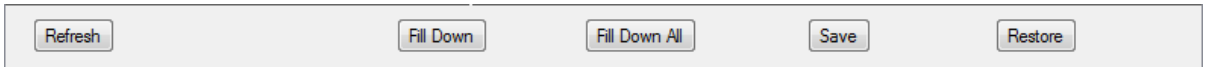


Figure 5-53. Button Row at Bottom of Window

The selectors on the selection criteria (left) side of the window allow you to change the Default Base Year, Currency, Cost Account, Metric Type, Service, and Personnel Type (see Figure 5-50). Each time you change any of these criteria, the grid displays the message shown in Figure 5-54.

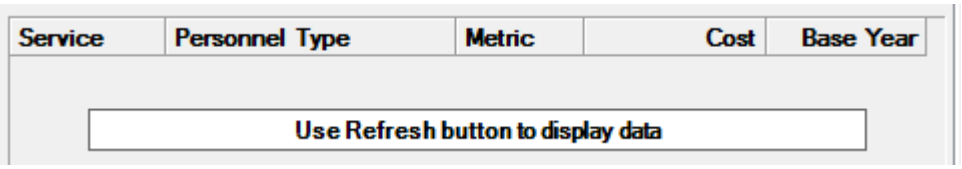


Figure 5-54. "Refresh Data" Message

When this happens, click the **Refresh** button at the bottom of the window to display the latest data for the selected criteria. This is particularly important when working in a network environment, but is also applicable to a stand-alone use of FOCIS. When you click the **Refresh** button, the set of data displayed in the grid shows the results of the new selections.

If the desired Cost Account does not show on the drop-down selection list, use the button to open the Cost Account Selector window (Figure 5-55). On this window, add a check mark under **Personnel** to assign the desired account for use in Personnel costing.

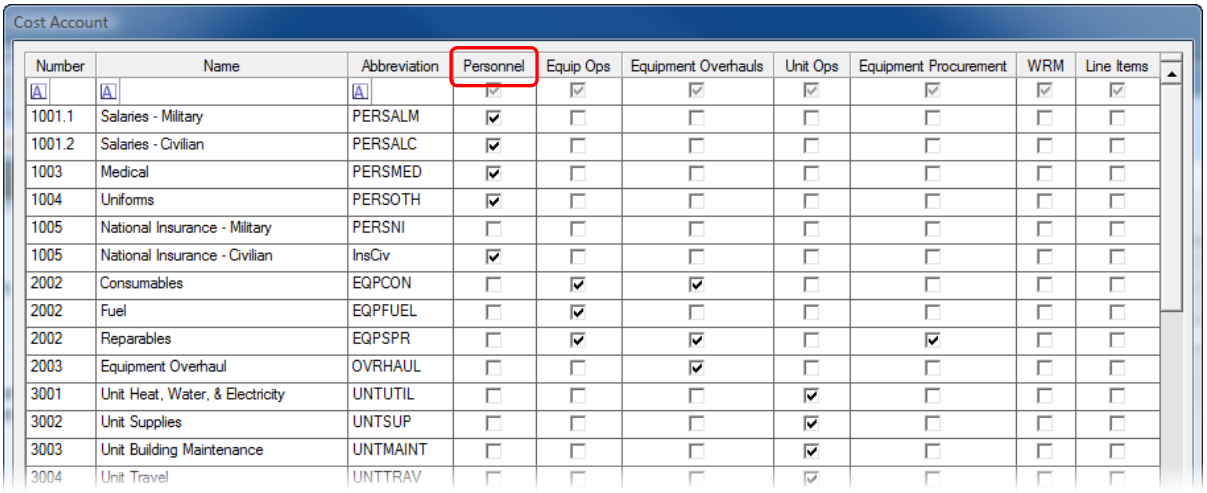


Figure 5-55. Cost Account Selector Window

If the Add Factors tab is used to enter data, the entered values are considered to be the standard values for the Cost Account and Personnel Type combination, and all Funding Level values are set to 100%. To make changes in the Funding Level values, select the Single Factor tab or the All Funding Levels tab.

When clicking from the Add Factors tab to the Single Factor tab, the Single Factor tab will display the data for the particular Service, Personnel Type, and Typical or Existing Cost Account criteria that were selected on the Add Factors tab. If more than one Personnel Type was selected on the Add Factors tab, the Single Factor tab display will be for the topmost

choice in the Personnel Type listing. If the Service selection on the Add Factors tab is set to **All**, the Single Factor tab will default to the highest level Service, generally the Ministry of Defense.

Modify Standard Factors

You can modify the cost factors on the Add Factors tab grid by right-clicking on the factor you want to change and choosing the **Modify** option on the shortcut menu in Figure 5-56.

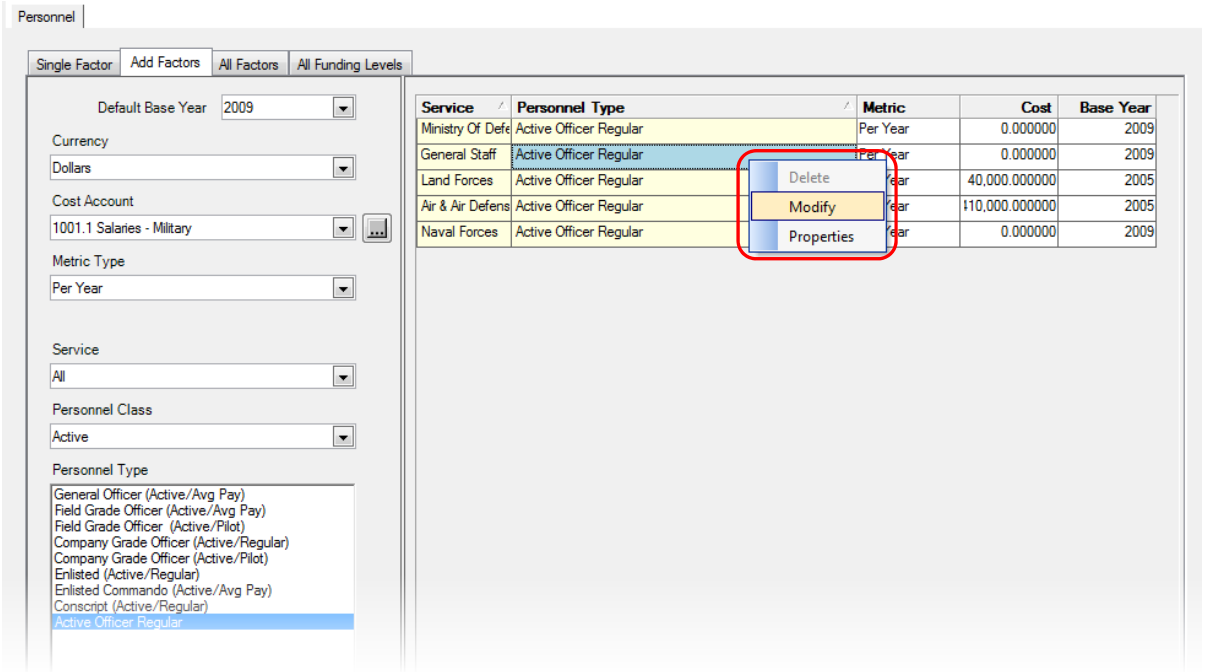


Figure 5-56. Modify Option on Shortcut Menu

When you select **Modify**, the Modify window (Figure 5-57) opens.

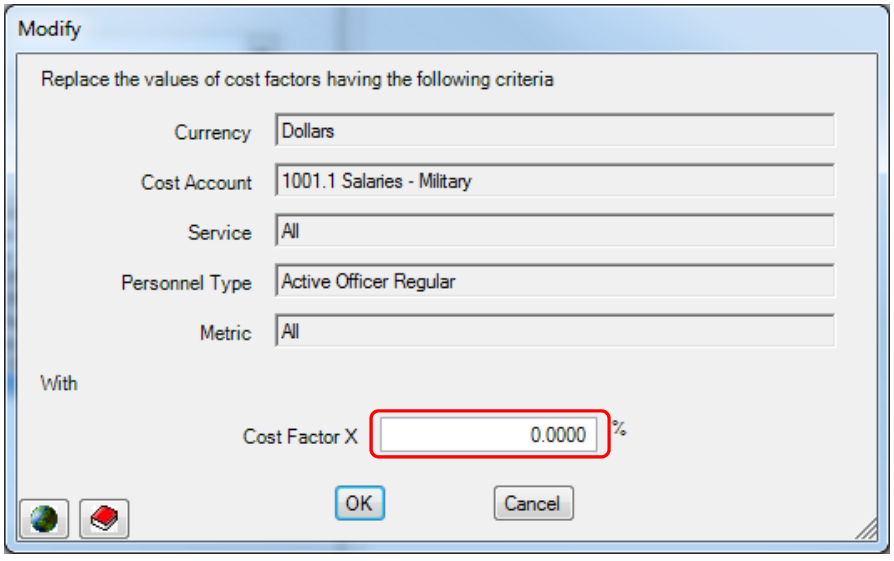


Figure 5-57. Modify Window

The Modify window shows the Currency, Cost Account, Service, Personnel Type, and Metric criteria that have been specified. Enter a non-zero percent value to change all matching cost factor values. If more than one Personnel Type has been selected, the window will show Personnel Type set to **Multiple** (Figure 5-58).

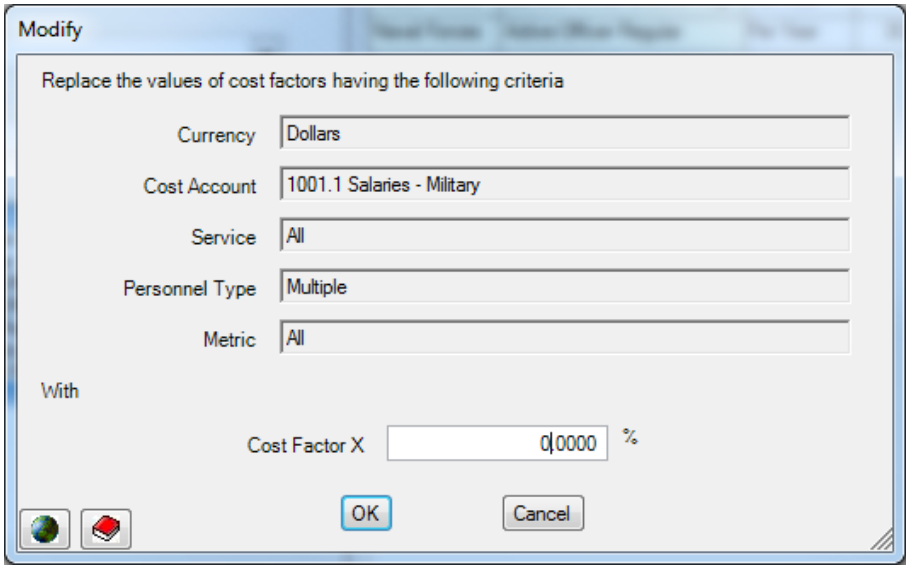


Figure 5-58. Modify Window with Multiple Personnel Types

If you do not enter a percent value before you click **OK**, the message in Figure 5-59 will be shown.

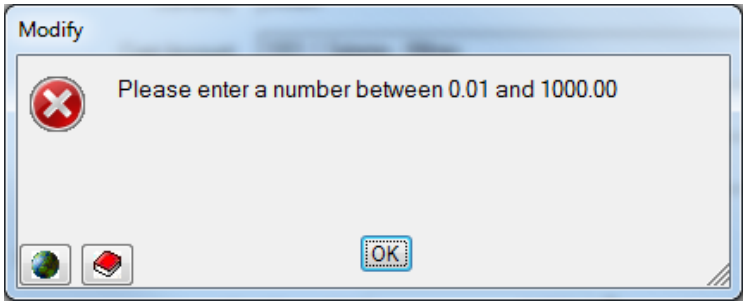


Figure 5-59. Error Message

Working with Personnel Annual Factors

A description of how to use the Annual Factors portion of any Operating Cost window is provided in the "Annual Factors and Funding Levels" section of this chapter on page 5-16.

Working with the Personnel All Factors and All Funding Levels Tabs

Descriptions of how to use the All Factors and All Funding Levels tabs are provided in the "Using the All Factors Tab" and "Using the All Funding Levels Tab" sections of this chapter. To export data from these tabs, see the "Exporting Data from the All Factors Tab" and Exporting Data from the All Funding Levels Tab" sections.

Importing Personnel Cost Data

Personnel cost data can be imported from an Excel spreadsheet. This feature is explained in Chapter 8 of this manual. Access to this feature is provided through the Utilities Work Area menu under Data **Functions > Import > Cost Data By Type**.

Exporting Personnel Cost Data

To export Personnel cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. A more complete description and an example are shown in the "Exporting Cost Data" section of this chapter.

When exporting Personnel cost factor data, there are two methods available, as shown on the Export Options window in Figure 5-60.

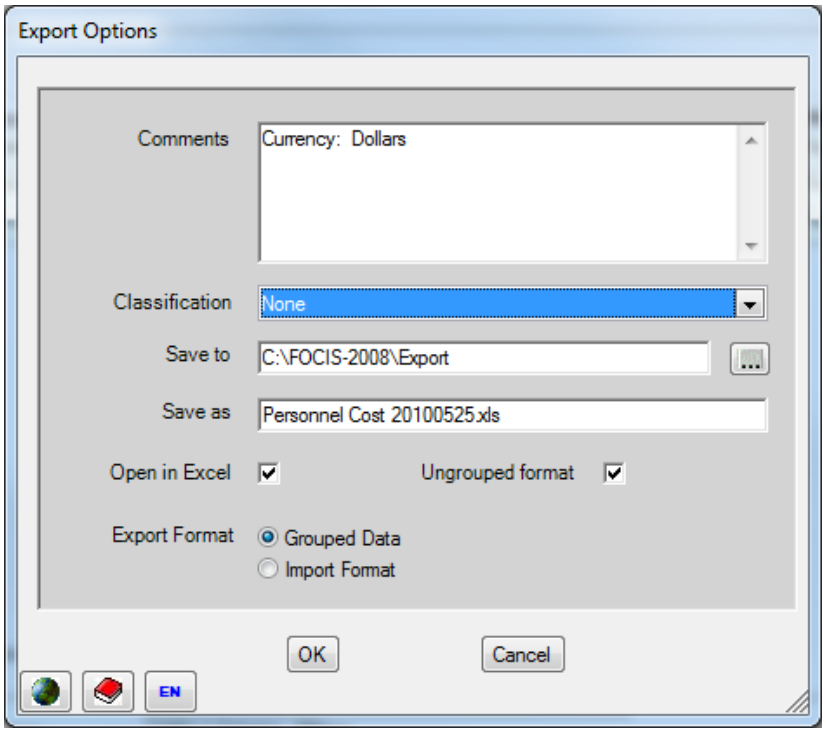


Figure 5-60. Export Options Window

With the choices shown, the data will be exported in the form described under the "Exporting Cost Data" section on page 5-28. A portion of the resulting Excel file is displayed in Figure 5-61.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Classification: None														
2															
3	Ministry Of Defense														
4															
5		Personnel Type	Cost Account	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013	
6		General Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	12096	2005	100	100	100	100	100	100	100	100	
7		General Officer (Active/Avg Pay)	1003 Medical	Per Year	3000	2005	100	100	100	100	100	100	100	100	
8		General Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	65	60	65	70	75	80	85	90	
9		Field Grade Officer (Active/Avg Pay)	1001.1 Salaries - Military	Per Year	9288	2005	100	100	100	100	100	100	100	100	
10		Field Grade Officer (Active/Avg Pay)	1003 Medical	Per Year	2450	2005	100	100	100	100	100	100	100	100	
11		Field Grade Officer (Active/Avg Pay)	1004 Uniforms	Per Year	2000	2005	100	100	100	100	100	100	100	100	
12		Company Grade Officer (Active/Regular)	1001.1 Salaries - Military	Per Year	8640	2005	100	100	100	100	100	100	100	100	
13		Company Grade Officer (Active/Regular)	1003 Medical	Per Year	2450	2005	100	100	100	100	100	100	100	100	
14		Company Grade Officer (Active/Regular)	1004 Uniforms	Per Year	2000	2005	100	100	100	100	100	100	100	100	

Figure 5-61. Exported Personnel Data (Excel Spreadsheet)

To export Personnel cost factor data in the format used for Personnel cost factor input, select the **Import Format** option (Figure 5-62).

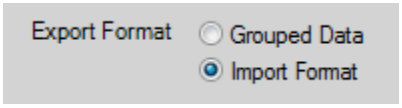


Figure 5-62. Export Format Options

This choice will result in an Excel file similar to that shown in Figure 5-63.

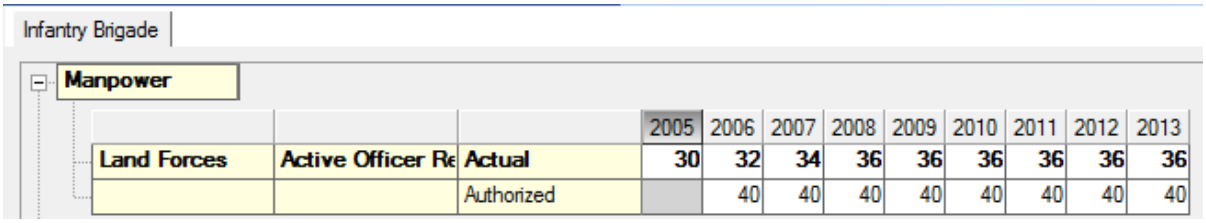
	A	B	C	D	E	F	G	H	I
1									
2									
3	Currency	Cost Account	Cost	Base Year	Service	Personnel Type	Cost Factor Type	Metric	
4	Dollars	Salaries - Military	12096	2005	Ministry Of Defense	General Officer (Active/Avg Pay)	Per Person	Per Year	
5	Dollars	Medical	3000	2005	Ministry Of Defense	General Officer (Active/Avg Pay)	Per Person	Per Year	
6	Dollars	Uniforms	2000	2005	Ministry Of Defense	General Officer (Active/Avg Pay)	Per Person	Per Year	
7	Dollars	Salaries - Military	9288	2005	Ministry Of Defense	Field Grade Officer (Active/Avg Pay)	Per Person	Per Year	
8	Dollars	Medical	2450	2005	Ministry Of Defense	Field Grade Officer (Active/Avg Pay)	Per Person	Per Year	
9	Dollars	Uniforms	2000	2005	Ministry Of Defense	Field Grade Officer (Active/Avg Pay)	Per Person	Per Year	
10	Dollars	Salaries - Military	8640	2005	Ministry Of Defense	Company Grade Officer (Active/Regular)	Per Person	Per Year	
11	Dollars	Medical	2450	2005	Ministry Of Defense	Company Grade Officer (Active/Regular)	Per Person	Per Year	
12	Dollars	Uniforms	2000	2005	Ministry Of Defense	Company Grade Officer (Active/Regular)	Per Person	Per Year	
13	Dollars	Salaries - Military	3888	2005	Ministry Of Defense	Enlisted (Active/Regular)	Per Person	Per Year	

Figure 5-63. Personnel Data in Import Format

By using this Export format, you can provide Excel spreadsheets to the appropriate experts for their review of the entered data or for the experts to add additional information in the format that can readily be imported into FOCIS.

Cost Calculations Using Personnel Cost Factors

FOCIS uses Personnel cost factors with cost drivers taken from Unit Manpower data similar to that shown in Figure 5-64. In this display, the first column shows the budgeting service (Land Forces) and the second column shows the Personnel Type (Active Officer Regular). The entries in the third column show whether the values to the right are the number of Personnel actually in or planned to be in the Unit or the number of Personnel the Unit is authorized in a fully mission-capable state.



			2005	2006	2007	2008	2009	2010	2011	2012	2013
Land Forces	Active Officer Re	Actual	30	32	34	36	36	36	36	36	36
		Authorized		40	40	40	40	40	40	40	40

Figure 5-64. Sample Manpower Data

FOCIS will apply Personnel cost factors to **actual** quantities in one of two ways. It will use either the number in each year or the average of the current and prior year actual quantities. The choice of which method is used in the cost calculation is determined by how each Personnel Type is created.

Figure 5-65 shows a portion of the Personnel Setup window, in which the user chose **Average Manning** as the basis on which to calculate costs for the "Active Officer Regular" Personnel Type. The figure also shows that the user could have chosen the **End of Year Manning** option as the basis on which to calculate the costs.

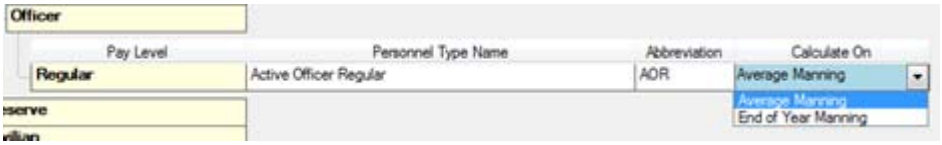


Figure 5-65. Personnel Setup Window (Average Manning)

As an example of how all of the components of a cost calculation using Personnel costs work together, consider the case of a Standard Personnel cost factor created for Land Forces Active Officer Regular salaries as shown in Figure 5-66 in which the Annual Factors were left at this level for all years.

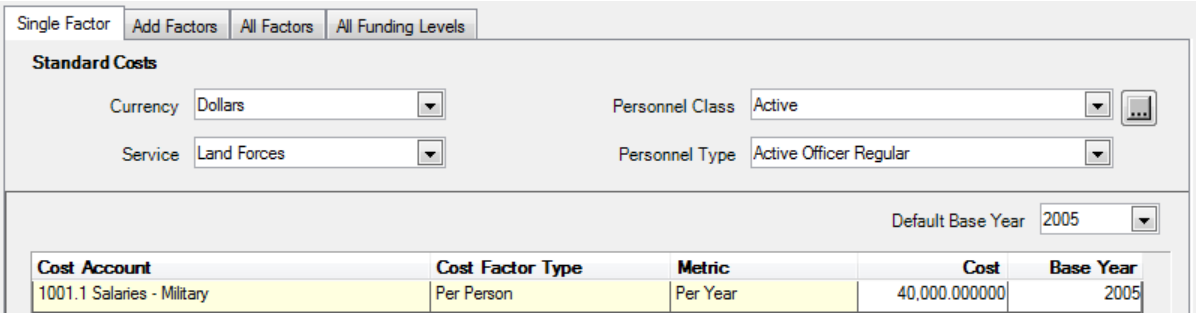


Figure 5-66. Example of Standard Personnel Cost Calculation

With the calculation method set to **Average Manning**, the cost calculation (done in terms of 2005 prices) produces the result shown in Figure 5-67.

Figure 5-67. Average Manning Calculation Result

Referring back to the Unit Manpower data in Figure 5-64, you can calculate that the average manning was 31 in 2006, 33 in 2007, 35 in 2008, and 36 in 2009 through 2012, and therefore the costs calculated in constant prices are:

- 1,240,000 (31 x 40,000) in 2006,
- 1,320,000 (33 x 40,000) in 2007,
- 1,400,000 (35 x 40,000) in 2008, and
- 1,440,000 (36 x 40,000) in 2009 through 2012.

If the calculation method is changed to **End of Year Manning** as shown in Figure 5-68, the cost results will change as shown in Figure 5-69.

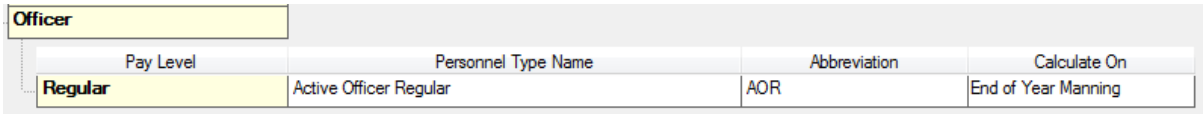


Figure 5-68. Personnel Setup Window (End of Year Manning)

Using the Unit Manpower data from Figure 5-64, the costs change to those in Figure 5-69.

Figure 5-69. End of Year Manning Calculation Result

Referring to the Unit Manpower data, you can see that the end-of-year manning was 32 in 2006, 34 in 2007, and 36 in 2008 through 2012, and therefore the costs calculated in constant prices are:

- 1,280,000 (32 x 40,000) in 2006,
- 1,360,000 (34 x 40,000) in 2007, and
- 1,440,000 (36 x 40,000) in 2008 through 2012.

Most manning changes occur during the year and the exact time when this will occur is seldom known a year or more ahead of time. Because few Unit manning changes occur at the start of the year, the Average Manning method is a more accurate basis for planning and the preferred modeling approach. The Average Manning method assumes that when all changes are considered, the actual impact is best approximated by applying only the average effect.

Modifying the Personnel Cost Terminology

FOCIS allows you to modify some of the terminology used with Personnel costs. If you click the icon, which opens the Translation interface, and select the Terminology tab, you can choose the “Cost Factors - Personnel - Factor Types” category to modify the Primary or Alternate terms used to describe the **Per Person** Cost Factor Type (Figure 5-70).

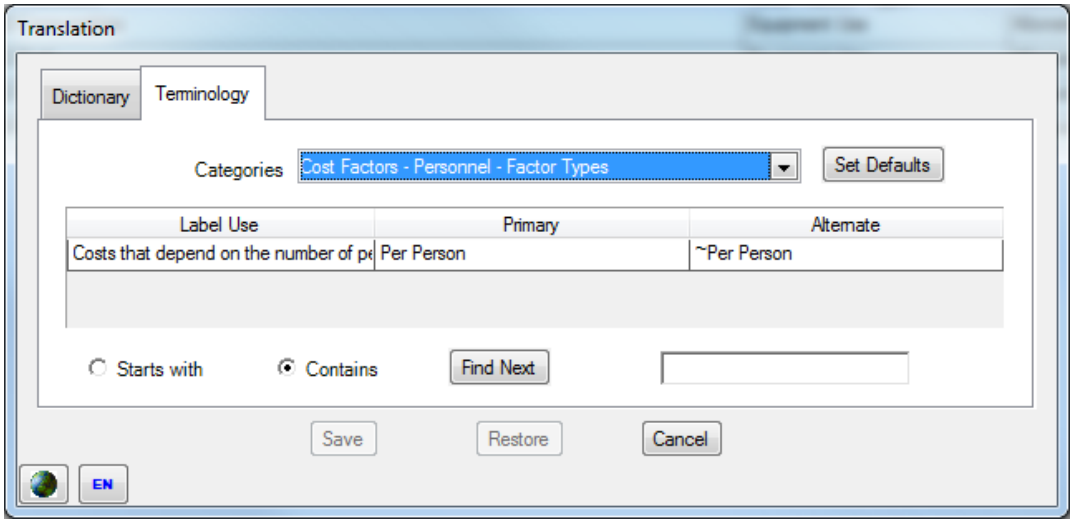


Figure 5-70. Cost Factors – Personnel – Factor Types Category

If you select the "Cost Factors - Personnel - Metrics" category, you can modify the Primary or Alternate terms used to describe the Metrics displayed with the three Cost Factor Types (Figure 5-71).

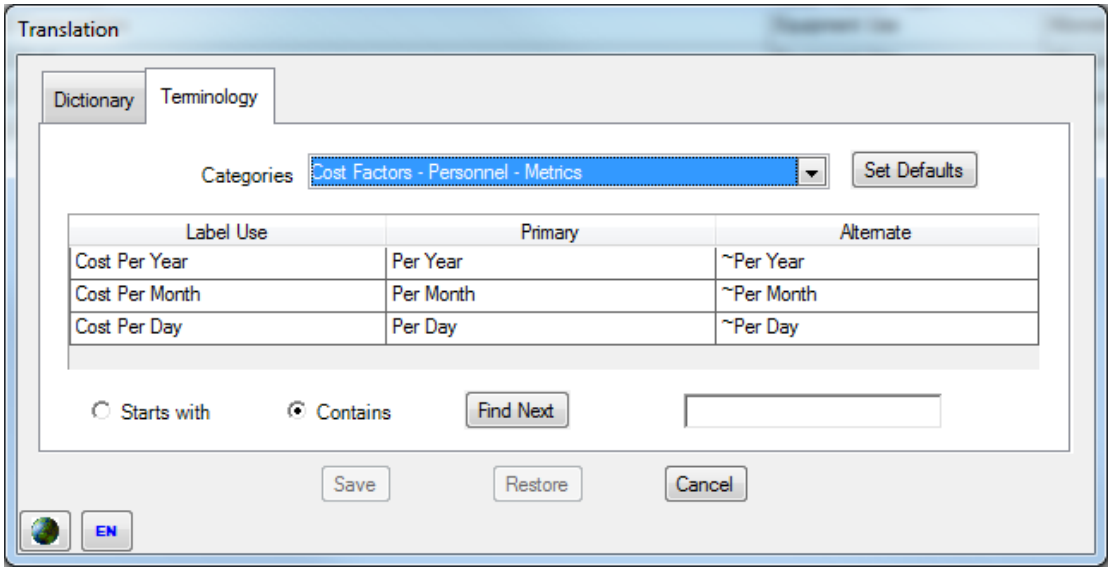


Figure 5-71. Cost Factors – Personnel – Metrics Category

Equipment Operations Cost Data

This section describes Equipment Operations costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Equipment Operations costs, and describes how to use the Equipment Operations cost data windows.

Using Equipment Operations Costs

Although the shorthand that appears in FOCIS is Equipment Operations, these costs are more properly described as Operating and Support (O&S) costs. This more traditional terminology emphasizes two different aspects of recurring equipment costs as explained below.

- **Operating** costs are those incurred when using functioning equipment to conduct operations or training. They often include energy consumption, such as fuel or electricity, and supplies consumed while using the equipment. As used in FOCIS, operating costs are intended to include all material consumed while using the equipment, including material such as ammunition, rockets, missiles, bombs, torpedoes, flares, chaff, and other consumable material. Associating costs such as ammunition with specific equipment provides for more complete planning and better analysis than when these costs are modeled in other ways.

- **Support** costs are those incurred in keeping equipment in working condition or returning an equipment item to working condition if it becomes defective. These costs include replacement of common items like filters and batteries as well as defective parts. Support costs also include all forms of equipment repair, including overhauls. (Note: FOCIS offers two different ways to model overhaul costs, which are discussed later in this section.)

The Equipment Operations cost windows provide one of two ways that FOCIS can be used to represent equipment O&S cost. The Equipment Operations cost factor window is used for costs that depend on any one of three cost drivers: equipment assigned to and in use in units, equipment assigned to and in storage in units, and equipment use in units.

Another FOCIS window (Equipment Overhauls) is used to represent equipment overhauls that are planned on an annual basis. The Overhauls window is described in the "Equipment Overhaul Cost and Quantity Data" section of this chapter.

> **Note for Former DRMM Users:**
>
> The DRMM Equipment Operating cost window provided one window to handle all items of Equipment O&S costs. FOCIS calculates Equipment Overhaul costs, based on year-by-year overhaul quantities, separately from other Equipment O&S costs, in a window called Overhaul Costs.

Equipment Operations Cost Drivers and Cost Factors

The Equipment Operations cost window provides the ability to create cost factors that are used with Equipment in use, Equipment in storage, and Equipment Use to estimate Equipment O&S costs. FOCIS links cost factors to cost drivers through a cost factor characteristic called the Cost Factor Type.

The relationship between Equipment Operations cost drivers and Cost Factor Types is shown in Table 5-3.

Table 5-3. Cost Drivers and Cost Factor Types

Cost Driver (Unit Data)	Cost Factor Type	Cost Factor Metric	Cost Factor Use
Equipment quantity (in Use) *The quantity of equipment that is used for operations or training*	Per Item (In Use)	Per Year	Costs that depend only on the actual amount of equipment in a unit.
Equipment quantity (in Storage) *The quantity of equipment that is stored and not used for operations or training.*	Per Item (In Storage)	Per Year	Costs that depend only on the amount of equipment in storage in a unit.
Equipment Use *A quantitative description of how much the equipment is used for operations or training, measured in terms of a user-selected metric.*	Equipment Use	User-selected (e.g., kilometers, flying hours, rounds fired)	Costs that depend on how much the equipment is actually used measured in terms of a user-selected metric.

Cost factors that use the Cost Factor Types **Per Item (In Use)** and **Per Item (In Storage)** have a fixed Metric of **Per Year**. Cost factors that use the Cost Factor Type **Equipment Use** can use any Metric from the Metrics setup table.

> **Note for Former DRMM Users:**
>
> DRMM Equipment Operating costs were described in terms of fixed and variable costs. FOCIS refers to fixed costs in a slightly more precise way as costs with a Cost Factor Type of **Per Item** and a Metric of **Per Year**.

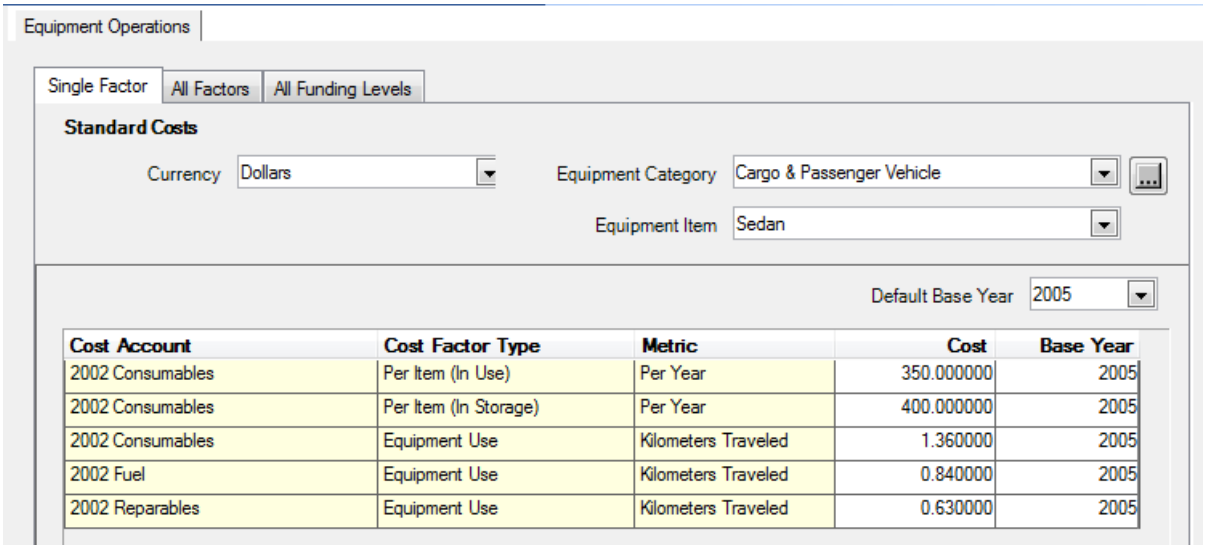
Equipment Operations cost factors have five characteristics, listed in Table 5-4.

Table 5-4. Equipment Operations Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Equipment Item (e.g., Sedan)
Cost Factor Characteristics	• Cost Factor Type (i.e., Per Item (In Use), Per Item (In Storage), Equipment Use) • Cost Factor Metric (i.e., Per Year, User-selected metric)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

FOCIS also allows you to create cost factors whose cost amounts are based on the Unit costs of a Support Material item and the quantity of that item that is used. For example, the cost of fuel for light trucks is often described as a cost based on fuel consumption expressed in liters, with the cost for fuel for the light truck calculated from the number of gallons and the cost of a liter of fuel.

In the Standard Costs area on the Single Factor tab of the FOCIS Equipment Operations window (Figure 5-72), the Equipment Item and Currency are selected in the top portion of the window and below that a grid displays each combination of Cost Account, Cost Factor Type, and Cost Factor Metric.



Cost Account	Cost Factor Type	Metric	Cost	Base Year
2002 Consumables	Per Item (In Use)	Per Year	350.000000	2005
2002 Consumables	Per Item (In Storage)	Per Year	400.000000	2005
2002 Consumables	Equipment Use	Kilometers Traveled	1.360000	2005
2002 Fuel	Equipment Use	Kilometers Traveled	0.840000	2005
2002 Reparables	Equipment Use	Kilometers Traveled	0.630000	2005

Figure 5-72. Equipment Operations Cost Window (Single Factor Tab)

There are two distinct aspects to consider when deciding how to model Equipment O&S costs. While making these choices, keep in mind that all Equipment Items need not be modeled the same way. As you consider each Item of Equipment and how you will model its operating costs, you will need to decide:

- What budget expenses you will represent with separate cost factors, and
- What cost drivers you will use with each expense.

Figure 5-72 displays an example of how the O&S costs of a Sedan could be modeled. The example shows five cost factors. This is a fairly complicated representation of the O&S costs of Sedans and is more complex than is required for a minor type of Equipment. However, it represents several of the options you have for modeling equipment O&S costs.

Notice that there are three cost factors for Consumable supplies, one for each Cost Factor Type. In addition, there are three different cost factors that are based on the number of kilometers driven and have the Cost Factor Type **Equipment Use**.

Taking advantage of this capability is especially useful in modeling the costs of Equipment that uses some form of ammunition in training—for example, tanks. Typically, fuel, consumable supplies, and spare parts costs are considered to be most influenced by kilometers driven. However, the number of rounds fired is an important aspect of training tank crews and the number of rounds fired by each crew is not dependent on the amount of maneuver training (kilometers). If you used both **Kilometers Traveled** and **Rounds Fired** as

Metrics for tanks, it would be easier to represent the cost of training ammunition. You would continue to use cost factors based on kilometers for items such as fuel, consumable supplies, and spare parts costs, but you would use the **Rounds Fired** Metric as the basis for the cost of ammunition.

Modeling Equipment Overhaul Costs

There are two different ways to model the costs of major maintenance activities for Equipment.

One approach is to estimate or obtain the typical cost to do an overhaul and divide this cost by the aspect of Equipment ownership that most influences how frequently overhauls are done. For example, if an aircraft requires a major overhaul for every 2,000 flying hours and an overhaul costs $200,000, you could create a cost factor for overhauls as one that used Equipment Use (flying hours) and enter a cost factor of $100 per flying hour.

If you use this approach, then on average, enough money will be placed in the budget to cover these overhauls. This approach works best for items that have large inventories and have been in the inventory for several years.

The other approach is to use another FOCIS cost function, Equipment Overhaul costs, where you enter planned future overhauls per year and create an overhaul cost factor of $200,000 per overhaul. There are circumstances in which either method could be used.

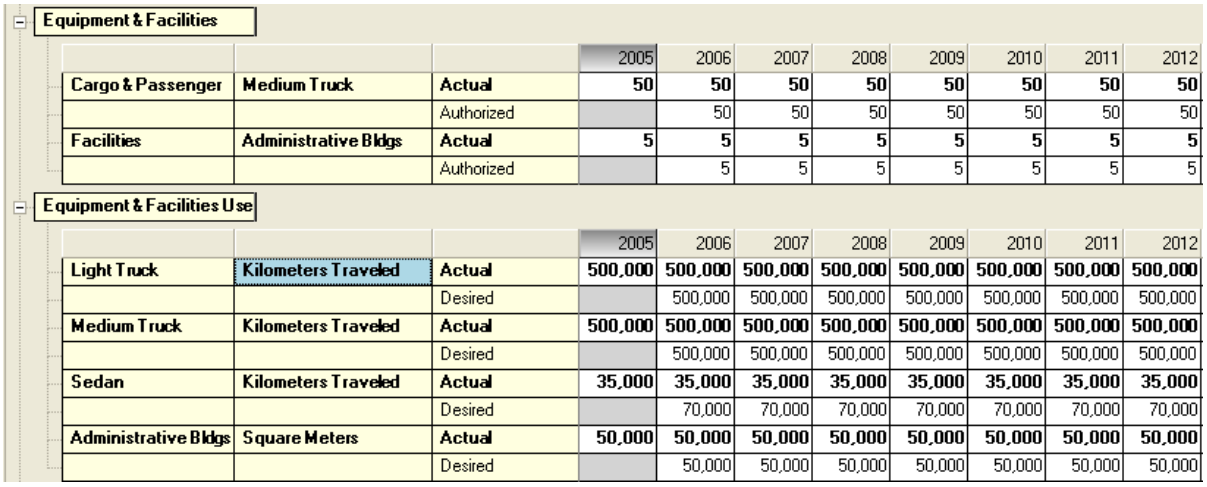
Using Equipment Operations Costs for Facilities

Some users have used FOCIS Equipment Operations costs to represent the O&S costs of facilities. When this is done, one or more Equipment Categories and Equipment Items are created to represent different types of facilities. These items then appear on, or can be added to, the Unit Equipment resource portion of the Unit Resources window. If desired, the label **Equipment** can be changed to something like **Equipment & Facilities** to make it clearer that the data represent both types of assets.

The concepts that affect the O&S costs of Facilities are identical to those of Equipment. Some costs can be thought of as costs per Facility per year, and you could enter a number of buildings in the Equipment & Facilities data area and use the Cost Factor Type **Equipment (In Use)** to represent these costs.

Other costs might best be modeled as a function of the size of the building. In this case, an Equipment & Facilities Use could be entered for a Metric like **Square Meters**. Then cost factors for the Cost Factor Type **Equipment Use** could be created using the Metric **Square Meters**. Similar things could be done for real property, roads, runways, etc.

Figure 5-73 shows how FOCIS can be tailored to convert the Equipment Resource category into an Equipment & Facilities category. The remaining discussion will be written in terms of Equipment only, but all of the same concepts apply to both Equipment and Facilities.



Equipment & Facilities

			2005	2006	2007	2008	2009	2010	2011	2012
Cargo & Passenger	Medium Truck	Actual	50	50	50	50	50	50	50	50
		Authorized		50	50	50	50	50	50	50
Facilities	Administrative Bldgs	Actual	5	5	5	5	5	5	5	5
		Authorized		5	5	5	5	5	5	5

Equipment & Facilities Use

			2005	2006	2007	2008	2009	2010	2011	2012
Light Truck	Kilometers Traveled	Actual	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
		Desired		500,000	500,000	500,000	500,000	500,000	500,000	500,000
Medium Truck	Kilometers Traveled	Actual	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
		Desired		500,000	500,000	500,000	500,000	500,000	500,000	500,000
Sedan	Kilometers Traveled	Actual	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000
		Desired		70,000	70,000	70,000	70,000	70,000	70,000	70,000
Administrative Bldgs	Square Meters	Actual	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
		Desired		50,000	50,000	50,000	50,000	50,000	50,000	50,000

Figure 5-73. Sample of Use of "Equipment & Facilities" Label

Other window labels can be changed using the Dictionary tab of the Translation window.

Using the Equipment Operations Cost Data Window

Many functions of the Equipment Operations cost data window are common to other cost data windows. A complete description of these common features is provided in the "Common Cost Data Windows Functions" section of this chapter. If you have not read this section, you should do so to have a complete understanding of the full functionality of the Equipment Operations cost window. Detailed instructions for using unique aspects of the Equipment Operations cost data and its window are provided below.

The Equipment Operations cost data window provides tools you can use to create, review, and modify Equipment Operations cost factors. It has three tabs with complementary functions, as shown in Figure 5-74:

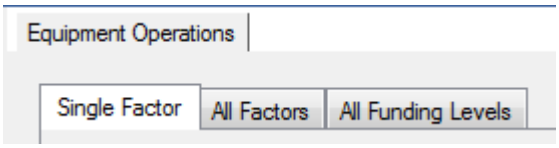


Figure 5-74. Three Tabs on Equipment Operations Cost Data Window

- Single Factor – the primary location for creating and working with all Standard and Annual cost factors for a single Equipment Item
- All Factors – the location for working with Standard cost factors for all Equipment Items
- All Funding Levels – the location for working with annual Funding Levels for all Equipment Items

Single Factor Tab

Each of the Equipment Operations Cost tabs allows you to edit existing Standard Costs or Annual Factors, but the Single Factor tab is the only tab that allows you to create new Standard Equipment Cost factors. Additionally, the Single Factor tab is the only one that allows you to work with both Standard and Annual factors at the same time.

The Single Factor tab (shown in Figure 5-75) provides the following capabilities for working with cost data for one Equipment Item at a time.

- Standard Cost factors
    - View existing cost factors
    - Edit cost factor values and Base Years
    - Add new cost factors
    - Delete existing cost factors
    - Copy cost factors from one Equipment Item to any other Equipment Item
- Annual Cost factors
    - View Annual Cost data for multiple years
    - Modify Funding Levels or Annual Factors (with or without inflation) for any year
    - View the Inflation data that affect cost factors in each year (when Full Details check box is selected)

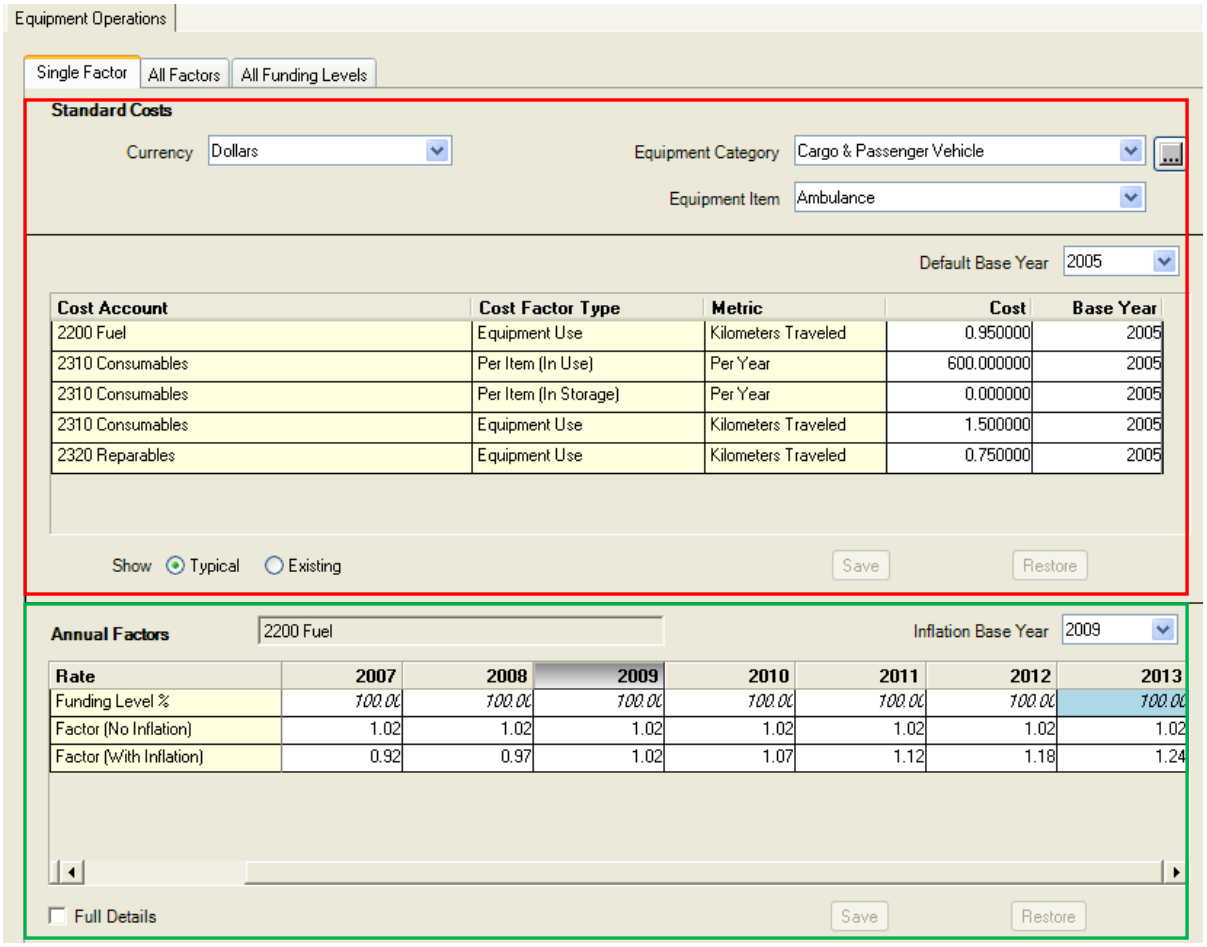


Figure 5-75. Standard Costs and Annual Factors Areas on Single Factor Tab

The window has separate work areas for Standard and Annual Factors. The top area (with the red rectangle around it in Figure 5-75) is used to add, review, and modify Standard costs (see the "Standard Costs" section in this chapter) and their Base Years. The bottom area (with the green rectangle around it) provides information for working with the Annual Factors of any one of the Standard costs.

Select a Currency

Before working with any costs, make sure you review or set the Currency selector to its desired value. In almost every case, Equipment Operations costs will be funded from the national budget; therefore, the Currency will be that of the country using FOCIS. FOCIS shows the default Currency when it opens the Equipment Operations window. If your preferred Currency does not show when this window opens, use the Currency Setup window to move your preferred Currency to the top of the list.

Select an Equipment Category and Equipment Item

Before working with any costs, make sure to review or set the Equipment Category and Equipment Item selectors to their desired values. The Equipment Category selector controls

the list of Equipment Items that are available to select. It can be set to **All**, if desired, to see all Equipment Items at one time.

Working with Standard Factors

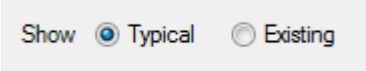


Figure 5-76. View Mode Options

When you select a Currency, Equipment Category, and Equipment Item, all factors that exist for that combination are displayed in the grid below the selections. Some zero-value factors may also be shown if the View Mode is set to **Typical** as shown in Figure 5-76. The View Mode options are located at the bottom of the Standard Costs section of the window. You can revise any existing cost factor value by clicking in the Cost column and entering the new value.

Add Standard Factors

There are several ways to add Standard Factors.

- Right-click and choose **Add** from the shortcut menu. The window shown in Figure 5-77 will open.
- Right-click and choose **Copy** from the shortcut menu to copy a previously entered set of Standard Factors.
- Use the View Mode set to **Typical** if you already have Standard Factors entered for at least one Equipment Item of the same Equipment Category as the one you want to add.

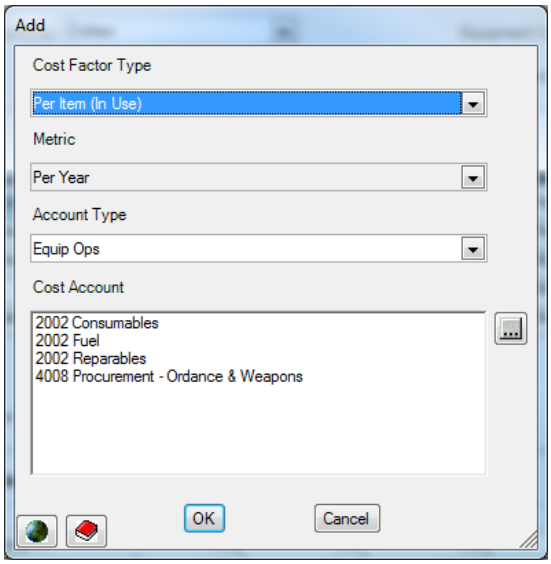


Figure 5-77. Add Window (Equipment Operations)

Notice in Figure 5-75 with Ambulance cost data that the list of Cost Accounts includes a Cost Account that has a zero value. This is a result of having the display mode set to **Typical** and other equipment in the Cargo & Passenger Vehicle Category having a factor with this Cost Account and Cost Factor Type. Setting the display mode to **Typical** is an efficient way to initially enter cost data.

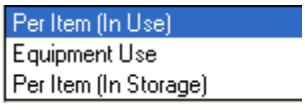


Figure 5-78. Cost Factor Types

There are three Cost Factor Types used with Equipment Operations Standard costs. Use the Cost Factor Type selector on the Add window to choose the option that applies to the cost factor you want to add. The choices are shown in Figure 5-78. If you choose either **Per Item (In Use)** or **Per Item (In Storage)**, FOCIS assigns the Metric **Per Year**. If you choose the **Equipment Use** Cost

Factor Type, you will be able to choose a Metric like Kilometers, Flying Hours, Rounds Fired or any other Metric you have created in the Metrics Setup and associated with the selected Equipment Item. Additionally, if you choose **Equipment Use**, the display will show the icon next to the Metric list (Figure 5-79). You can use this icon to open the Metric Setup window to add a missing Metric for the Equipment Item you are working with.

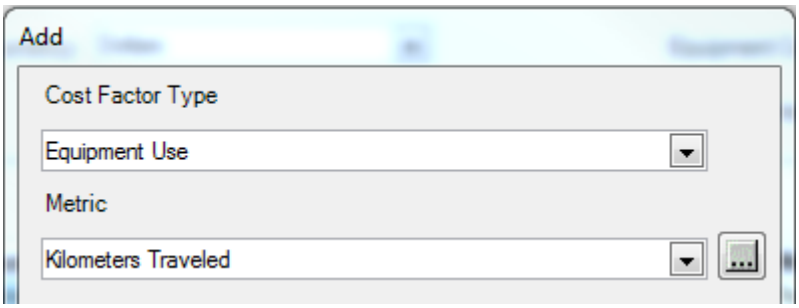


Figure 5-79. Browse Icon Next to Metric Drop-Down List

If Cost Accounts that have been set for use with Equipment Operations costs (using the Cost Account Setup window) have not yet been used for the currently selected Equipment Item, the unused Cost Accounts will show in the list of Cost Accounts. If you do not see the Cost Account you want to use, use the Account Type selector to choose either **All** or one of the other Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Equipment Operations costs. After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Equipment Cost window, where you will enter a cost value and Base Year.

One other way to add a new Standard Cost factor is to set the Standard Factor View Mode to **Typical**. The View Mode determines whether only the Standard Factors that have already been created are shown (**Existing**) or whether a row appears for every Cost Account that has been used with any Equipment Item of the same Equipment Category. When set to **Typical**, a row appears in the list of cost factors for all of the Cost Account, Cost Factor Type, and Cost Factor Metric combinations you are most likely going to want, based on how the costs of similar items have been modeled. Entering a Standard Factor only requires that you revise the Cost entry from its zero value to the desired value, make sure the Base Year is correct, and click **Save**.

When in the **Typical** View Mode, it is possible some Cost Accounts will have values of zero. These factors have no effect on how FOCIS calculates Equipment costs and can be ignored. They exist only to make adding a cost factor of this type as easy as possible. If you want to see only those entries with non-zero values, set the View Mode to **Existing**.

Note: Adding Factors using the **Typical** View Mode does not work until cost factors have been created for an Equipment Item of the same Equipment Category as you have selected.

Copy Standard Factors

You can also add Equipment Operations Cost Standard factors by copying an existing set of Factors (all Cost Accounts with cost values for a selected Equipment Item) to another Equipment Item.

The **Copy** function is available when you right-click and choose **Copy** from the shortcut menu. FOCIS will make a copy of all cost factors (all combinations of Currency, Cost Account, Cost Factor Type, and Metric) for the currently selected Equipment Item. When **Copy** is selected, FOCIS opens the window shown in Figure 5-80.

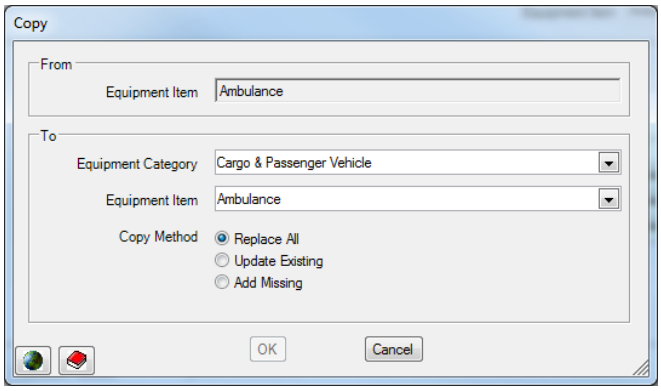


Figure 5-80. Copy Window

The top (From) portion of the window shows the Equipment Item that cost data will be copied from. The bottom (To) portion provides selectors to choose the Equipment Item you will copy the data to. The Equipment Category selector is there to help shorten the list of all Equipment Items available in the Equipment Item selector.

When you copy cost factors, there may or may not already be cost factors for the Equipment Item you have selected to copy to. If there are no existing factors, use the **Replace All** option. If there are cost factors for the Equipment Item you have selected to copy to, you then have three options (**Replace All**, **Update Existing**, and **Add Missing**) to choose from.

The Copy Methods are described in the "Copy Method Options" section on page 5-27.

Transfer Standard Factors

Sometimes data are accidentally entered for the wrong Equipment Item, Cost Factor Type, Metric, Currency, or Cost Account. FOCIS allows you to transfer the cost and Base Year information to any other combination of Equipment Item, Cost Factor Type, Metric, Currency, and Cost Account, as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. A sample of the Transfer window is shown in Figure 5-81.

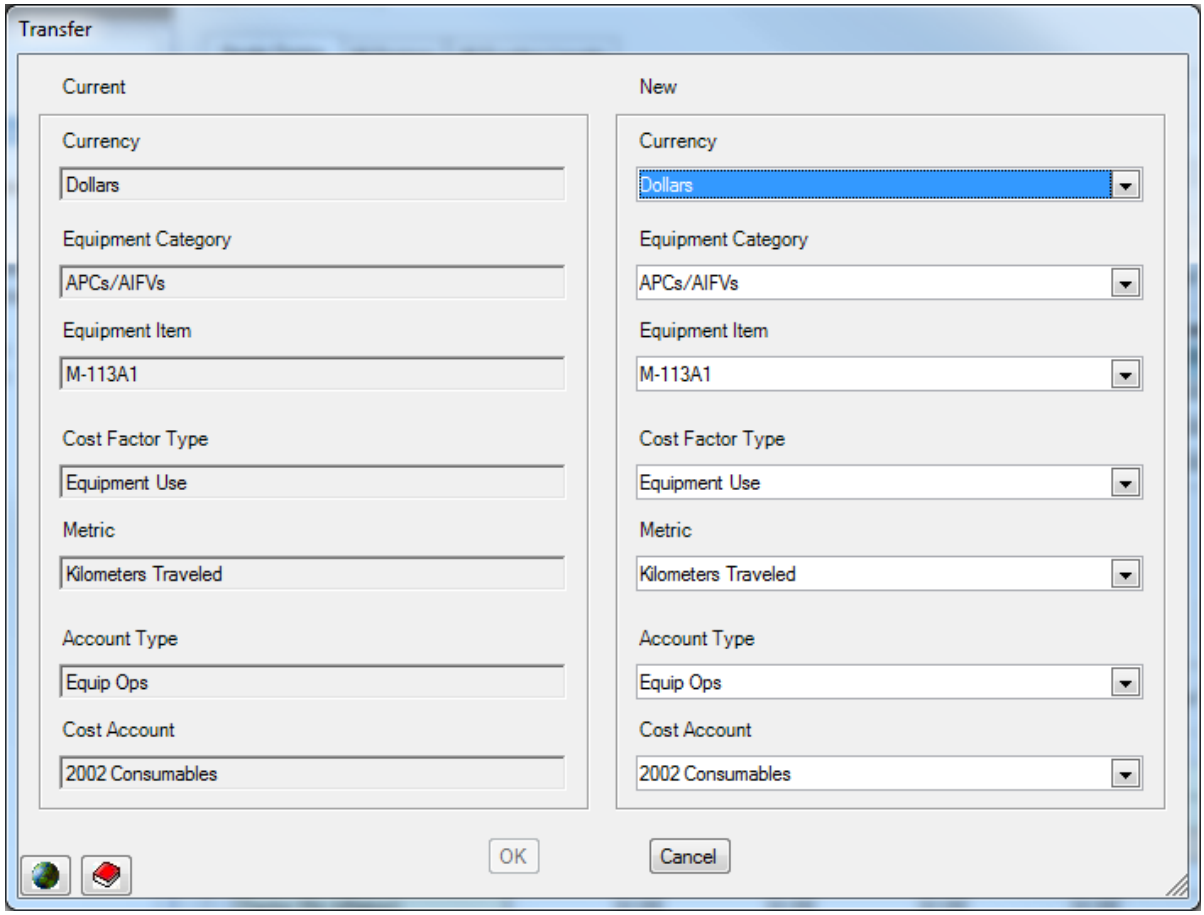


Figure 5-81. Equipment Operations Transfer Window

Cost Factors Based on Support Material Item Costs

Some costs are most conveniently described in terms of how much of some common Support Material will be used. Fuel and ammunition costs are two of the best examples of this type of cost factor. Fuel costs are most easily described in terms of the number of gallons of fuel used and ammunition costs are easily described in terms of the number of rounds. In these cases it would be easiest to be able to record the amount of that material item that will be used and have FOCIS calculate the cost factor's Cost value based on the amount and the unit cost of that material item. FOCIS allows users to create these types of cost relationships for Equipment Operations and Unit Operations cost factors.

To better understand how this capability is implemented with FOCIS, we will describe step-by-step how you would create Equipment Operating cost factors for gasoline for light trucks. You begin by recognizing that you want to use the amount of gasoline used as the basis for several cost factors. At this point, you would use the Setup Work Area's Support Material window to add gasoline to the list of Support Materials. Figure 5-82 shows a Support Material window where gasoline has been added to the list. Notice that each Support Material item has a metric. In the case of gasoline, the metric is "Gallon." We will use the

metric when we describe the costs of gasoline when we enter a cost per gallon, and we will also use this metric when we provide a quantity to describe how much is used with the light truck.

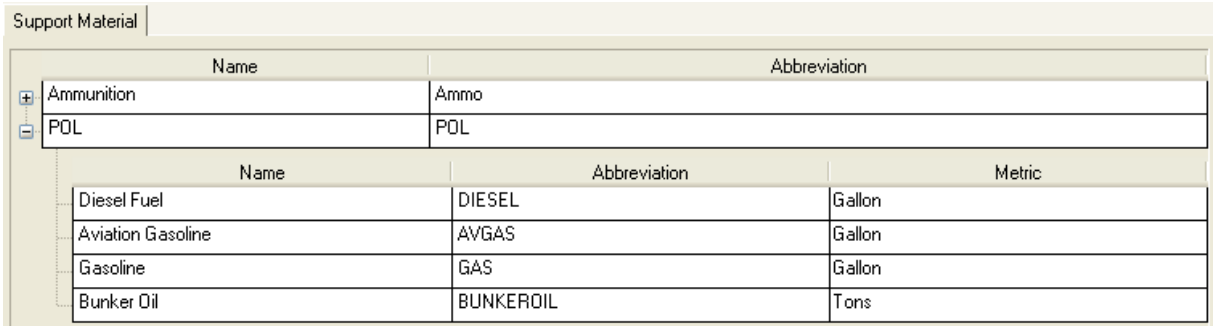


Figure 5-82. Support Material Window (Gasoline Added)

The next step is to enter a cost for a gallon of gasoline. You can do that in the Support Material cost window in the Cost Data Work Area. Figure 5-83 shows the Support Material cost window with the gasoline costs. Like all other costs information, the cost of gasoline has a Currency (USD (Reg Bud)), a Cost Account (2200 POL), and a Base Year (2010). The information in the "Cost Per" column is the metric you created for gasoline in the Support Material Setup window.

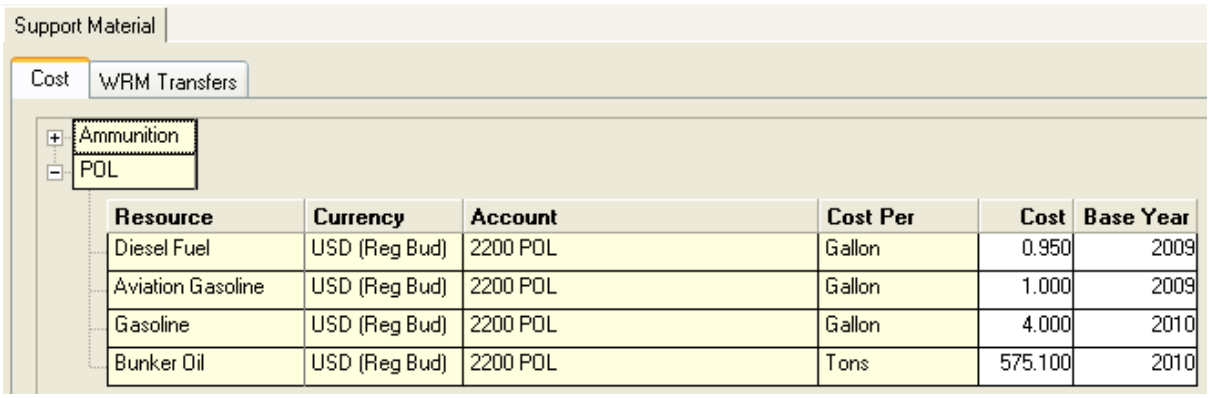


Figure 5-83. Support Material Window (with POL Costs)

If there is not already a cost factor for POL for the Light Truck equipment item, you must first create it, using the **Add** function on the shortcut menu which takes you to the Equipment Operations window in the Cost Data Work Area. Once you have created the cost factor, you can convert it to one that uses the gasoline costs by right-clicking anywhere in the row you want to convert and selecting the **Use Support Material** option on the shortcut menu (see Figure 5-84).

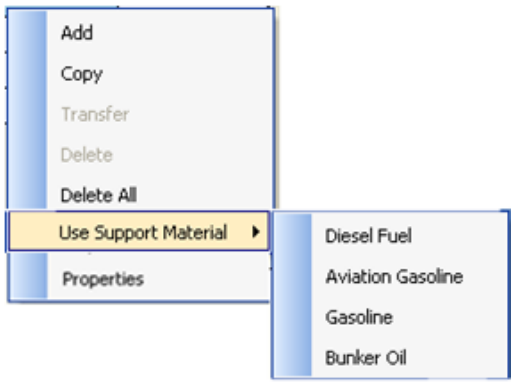


Figure 5-84. Shortcut Menu With "Use Support Material" Option

When you click the **Use Support Material** option, a list of all Support Material items appears. The list includes all Support Material items that have a cost value with a Currency and Cost Account that matches those of the cost factor your cursor was pointing to when you right-clicked. For example, you already have entered a cost for gasoline using the Cost Account "Fuel" and the Currency "USD (Reg Bud)." When you select the **Use Support Material** function, FOCIS lists all Support Material items that have a cost with the same Cost Account and Currency.

> **Important:**
>
> The **Use Support Material** shortcut menu option is only enabled when cost data has been entered for a Support Material item with a Currency and Cost Account that matches the Equipment Operating or Unit Operating cost factor your cursor was pointing to when you right-clicked. For example, if you right-click on a cost factor with Currency "US Dollars" and Cost Account "2300 Spare Parts" and there is no Support Material item with this Currency and Cost Account, the **Use Support Material** option is disabled.

Although this describes the shortcut menu used with Support Material items, you can remove the use of the Support Material item quantity and costs by selecting the **No Support Material** option on the shortcut menu (Figure 5-85). When you remove an existing relationship with a Support Material item, the cost factor's Cost value will remain unchanged and will not change if the Cost of that Support Material item changes in the future.

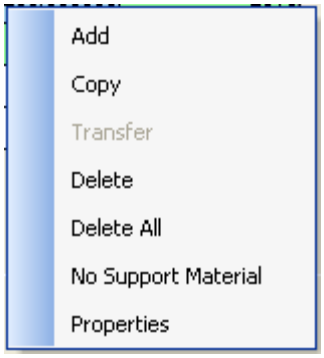


Figure 5-85. Shortcut Menu with No Support Material Option

After you select the **Use Support Material** option and have chosen **Gasoline** as the Support Material item to use, the Equipment Operations or Unit Operations cost factor window changes to look like the one shown in Figure 5-86. In this example, two different cost factors for Light Trucks have already been created. One cost factor describes POL costs that are based on the number of trucks in the Unit (i.e., Cost Factor Type = Per Item (in Use)) and the other POL cost is based Equipment Use (i.e., Cost Factor Type = Equipment Use). These two cost factors appear differently from cost factors that do not use Support Material quantities and cost as the basis for their Cost values. The cost factors that do use Support Material information have a green background, while those that do not have a white background. Figure 5-86 shows the costs for Light Trucks that uses the Support Material cost for two of the four cost factors.

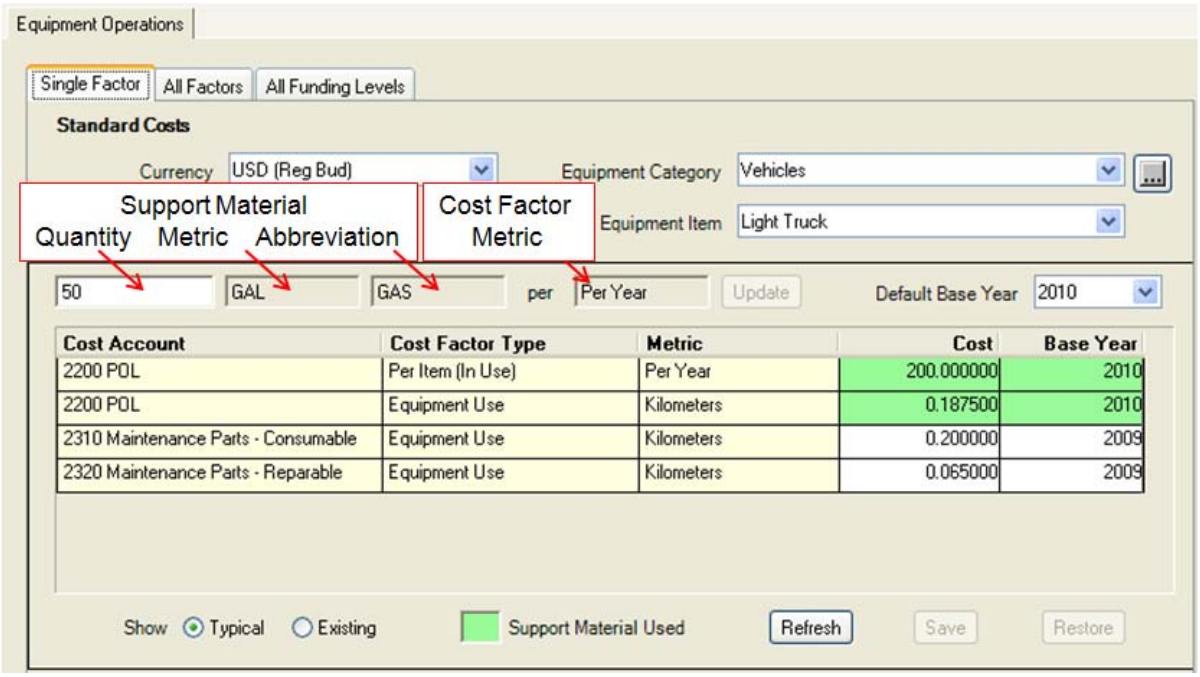


Figure 5-86. Equipment Operations Cost Factors Using Support Material

Note the following changes to this window when at least one cost factor uses Support Material costs:

- A new set of data fields are shown above the Standard Cost data grid. These fields allow you to enter (1) the quantity of a Support Material item that is to be used to determine the cost factor Cost (e.g., 50 in the example), (2) the metric (abbreviation) of the Support Material Item, and (3) the abbreviation of the name of the item.
- Following these three fields is a field containing the Cost Factor Metric for the cost factor that uses this Support Material item.
- As mentioned on the previous page, those cost factors that are based on Support Material costs are shown with a green background. Below the Standard Cost grid is a

legend to remind you that those cells are the ones that use a Support Material item as the basis for the cost factor's Cost value.

Therefore, in the example shown in Figure 5-86:

- A Support Material item was created for **Gasoline** with the material metric set to **Gallons**.
- A Support Material Cost for **Gasoline** (abbreviated as "GAS") was set to **$4.00 per Gallon** using the Cost Account "2200 POL" and the Currency "USD (Reg Bud)."
- Two Equipment Operating cost factors were created using the Cost Account "2200 POL" and the Currency "USD (Reg Bud)":
  - one as a cost Per Year
  - one as a cost per Kilometer
- The existing cost factors were revised using the **Use Support Material** option on the shortcut menu.
- The POL cost factor using the **Per Year** metric was calculated by FOCIS as shown in Figure 5-87:

Figure 5-87. POL Cost per Year Based on Gasoline Quantity and Unit Cost

  - Therefore, 200 = (50 Gallons) x (4.00 per Gallon)
- The POL cost factor using the **Per Kilometer** metric was calculated by FOCIS as shown in Figure 5-88:

Figure 5-88. POL Cost Per Kilometer Based on Gasoline Quantity and Unit Cost

  - Therefore, 0.1875 = (0.0625 Gallons) x (4.00 per Gallon)

Note: 0.0625 gallons per kilometer = 16 kilometers per gallon.

If the costs of gasoline later had to be changed to, for example, $5.00 per Gallon, both cost factors for POL for the Light Truck would change automatically as well.

When a Support Material **quantity** is revised, click the **Update** button (inactive in Figure 5-87 and Figure 5-88) to change the cost factor's Cost value (i.e., the value in the Cost column = Support Material Quantity x Support Material Cost).

When any Support Material item's **unit cost** is revised, all cost factors that depend on that Support Material item are automatically updated. If many different cost factors for **Gasoline** are entered as cost factors dependent on the **Gasoline** Support Material unit cost, their values will all change any time the unit cost of **Gasoline** is changed.

> **Important:**
>
> Since the cost of petroleum-dependent material frequently changes independently from the general costs in the country's economy, it is normal to create a separate set of inflation cost factors for petroleum-based items and use this method to vary these costs in different years. If you try to update just the unit cost when the price of petroleum-based products changes, you will most likely misrepresent these costs in prior and subsequent years. Study the "Inflation Data" section beginning on page 5-134 to learn how Costs and Inflation data work together to establish the Costs in different years.

Working with Equipment Operations Annual Factors

A description of how to use the Annual Factors portion of any Operating Cost window is provided in the "Annual Factors and Funding Levels" section of this chapter on page 5-16.

Working with the Equipment All Factors and All Funding Levels Tabs

Descriptions of how to use the All Factors and All Funding Levels tabs are provided in the "Using the All Factors Tab" and "Using the All Funding Levels Tab" sections of this chapter. To export data from these tabs, see the "Exporting Data from the All Factors Tab" and "Exporting Data from the All Funding Levels Tab" sections.

Exporting Equipment Operations Cost Data

To export Equipment Operations cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. A more complete description and an example are shown in the "Exporting Cost Data" section of this chapter.

When exporting Equipment Operations cost factor data, there are two methods available, as shown on the Export Options window in Figure 5-89.

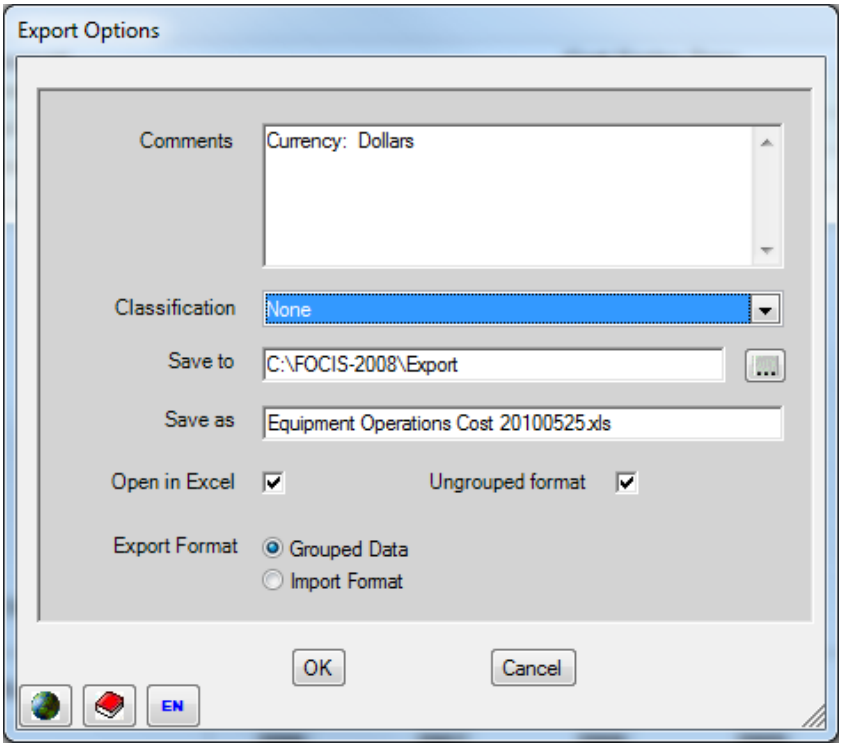


Figure 5-89. Export Options Window

With the choices shown, the data will be exported in the form described under the "Exporting Cost Data" section on page 5-28. A portion of the resulting Excel file is shown in Figure 5-90.

Classification: None

APCs/AIFVs

Equipment Item	Cost Account	Cost Factor Type	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
Bradley Fighting Vehicle	2002 Consumables	Equipment Use	Kilometers Traveled	26.4	2005	100	100	100	100	100	100	100	100
Bradley Fighting Vehicle	2002 Fuel	Equipment Use	Kilometers Traveled	5.4	2005	100	100	100	100	100	100	100	100
Bradley Fighting Vehicle	2002 Reparables	Equipment Use	Kilometers Traveled	31.95	2005	100	100	100	100	100	100	100	100
BMP-1	2002 Consumables	Equipment Use	Kilometers Traveled	114.44	2005	100	100	100	100	100	100	100	100
BMP-1	2002 Fuel	Equipment Use	Kilometers Traveled	10.92	2005	100	100	100	100	100	100	100	100
BMP-1	2002 Reparables	Equipment Use	Kilometers Traveled	247.23	2005	100	100	100	100	100	100	100	100

Figure 5-90. Exported Equipment Operations Data (Excel Spreadsheet)

To export Equipment Operations cost factor data in the format used for Equipment Operations cost factor input, select the **Import Format** option (Figure 5-91).

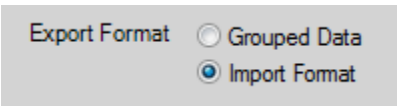


Figure 5-91. Export Format Options

This choice will result in an Excel file similar to that shown in Figure 5-92.

	A	B	C	D	E	F	G	H	I
1									
2									
3	Equipment Category	Currency	Cost Account	Cost	Base Year	Equipment Item	Cost Factor Type	Metric	
4	APCs/AIFVs	Dollars	Consumables	26.4	2005	Bradley Fighting Vehicle	Equipment Use	Kilometers Traveled	
5	APCs/AIFVs	Dollars	Fuel	5.4	2005	Bradley Fighting Vehicle	Equipment Use	Kilometers Traveled	
6	APCs/AIFVs	Dollars	Reparables	31.95	2005	Bradley Fighting Vehicle	Equipment Use	Kilometers Traveled	
7	APCs/AIFVs	Dollars	Consumables	114.44	2005	BMP-1	Equipment Use	Kilometers Traveled	
8	APCs/AIFVs	Dollars	Fuel	10.92	2005	BMP-1	Equipment Use	Kilometers Traveled	
9	APCs/AIFVs	Dollars	Reparables	247.23	2005	BMP-1	Equipment Use	Kilometers Traveled	
10	APCs/AIFVs	Dollars	Consumables	26.4	2005	M-113A1	Equipment Use	Kilometers Traveled	
11	APCs/AIFVs	Dollars	Fuel	5.4	2005	M-113A1	Equipment Use	Kilometers Traveled	
12	APCs/AIFVs	Dollars	Reparables	31.95	2005	M-113A1	Equipment Use	Kilometers Traveled	

Figure 5-92. Equipment Operations Data in Import Format

By using this Export format, you can provide Excel spreadsheets to the appropriate experts for their review of the entered data or for the experts to add additional information in the format that can readily be imported into FOCIS.

Cost Calculations Using Equipment Operations Cost Factors

FOCIS uses Equipment Operations cost factors shown in Figure 5-72 to calculate costs in the following way:

For each year and for every Unit that has Sedans, FOCIS would multiply:

- The Actual number of Sedans less the number in Storage times the cost factor with the Cost Factor Type of **Per Item (In Use)** times the Funding Level entered for that year.
- The number of Sedans in storage times the cost factor with the Cost Factor Type of **Per Item (In Storage)** times the Funding Level entered for that year.
- The number of kilometers times the cost factor with the Cost Factor Type of **Equipment Use** and Metric of Kilometers times the Funding Level entered for that year. Note that this calculation does not use the number of vehicles since the value for "number of kilometers" represents the total use in this Unit regardless of the number of vehicles.

> **Important:**
>
> Costs calculated based on the Cost Factor Type **Equipment (In Use)** use the Actual Inventory minus the quantity in storage as the cost driver. The number recorded as the Actual quantity of equipment in a Unit includes both the Equipment in regular use and the Equipment in storage.

This example, using data shown in Figure 5-93 and Figure 5-94 to produce the results shown in Figure 5-95, shows how FOCIS combines Actual Equipment and Equipment Use data with the cost factors to estimate costs. To make the example easier to understand, the Funding Levels are all assumed to be 100%.

			2005	2006	2007	2008	2009	2010	2011	2012	2013
Cargo & Passenger	**Sedan**	**Actual**	**10**	**10**	**10**	**10**	**12**	**12**	**12**	**12**	**12**
		Authorized		15	15	15	15	15	15	15	15
		Storage		2	2	2	0	0	0	0	0

Figure 5-93. Unit Equipment Data

			2005	2006	2007	2008	2009	2010	2011	2012	2013
Sedan	**Kilometers Traveled**	**Actual**	**25,000**	**25,000**	**25,000**	**25,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**
		Desired		35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000

Figure 5-94. Equipment Use Data

Sedan Cost

Include Data for: Military Recruitment Center | Summarize At: None

Constant price of 2005

Currency

Amount | Year

Equipment...	Calculation Me...	Cost Account	2006	2007	2008	2009	2010	2011	2012	2013
Sedan	Per Item (In Use)	2002 Equipment Operations - Consumables	2,800	2,800	2,800	4,200	4,200	4,200	4,200	4,200
	Per Item (Stored)	2002 Equipment Operations - Consumables	800	800	800					
	Equipment Use	2002 Equipment Operations - Consumables	34,000	34,000	34,000	40,800	40,800	40,800	40,800	40,800
		2002 Equipment Operations - Fuel	21,000	21,000	21,000	25,200	25,200	25,200	25,200	25,200
		2002 Equipment Operations - Reparables	15,750	15,750	15,750	18,900	18,900	18,900	18,900	18,900
	Equipment Use Total		70,750	70,750	70,750	84,900	84,900	84,900	84,900	84,900
Sedan Total			74,350	74,350	74,350	89,100	89,100	89,100	89,100	89,100

Figure 5-95. Cost Results from the FOCIS Calculation (in 2005 Prices)

There are two things worth noting before examining the cost calculation details. First, there are entries for three different Calculation Methods and they correspond to the three Cost Factor Types used with Sedans. Furthermore, there are separate entries in the cost result for this one Unit for each Sedan cost factor. Also note that for simplicity in following the calculation methods, the cost calculation was done in 2005 prices and all of the Sedan cost factors are in 2005 prices. Had any of the Base Years been different from the cost calculation Base Year, FOCIS would have adjusted the cost factor values. The following paragraphs describe each of the calculations.

- Costs Per Item (In Storage): Since there are Sedans in Storage only in 2006 through 2008, there are costs in the cost result for only these years. The costs in each of these years (800) is the number of Sedans in storage (2) times the cost per year per item (400). These costs are recorded against the Cost Account "2002 Equipment Operations – Consumables" based on the Cost Account used in the cost factor.

- Costs Per Item (In Use): There are 10 Sedans in the Actual inventory in 2006 through 2008. The cost (2,800) in 2006-2008 is based on the number of Actual Sedans (10) minus the number in Storage (2) times the cost per year per item (350). The cost (4,200) shown in 2009 through 2013 is based on the number of Actual Sedans (12) minus the number in Storage (0) times the cost per year per item (350). These costs

are recorded against the Cost Account "2002 Equipment Operations – Consumables" based on the Cost Account used in the cost factor.

- Costs Based on Equipment Use: There are three Sedan cost factors that use the Cost Factor Type **Equipment Use**. In each case, FOCIS uses the Actual quantity of Kilometers (25,000 in 2006–2009 and 30,000 in 2010–2013) and the cost factor value.
  - "2002 Equipment Operations – Consumables" (1.36 per kilometer) produces a result of 34,000 (= 1.36 * 25,000) in 2006–2009 and 40,800 (= 1.36 * 30,000) in 2010–2012
  - "2002 Equipment Operations – Fuel" (0.84 per kilometer) produces a result of 21,000 (= 0.84 * 25,000) in 2006–2009 and 25,200 (= 0.84 * 30,000) in 2010–2012
  - "2002 Equipment Operations – Reparables" (0.63 per kilometer) produces a result of 15,750 (= 0.63 * 25,000) in 2006–2009 and 18,900 (= 0.63 * 30,000) in 2010–2012

Modifying the Equipment Operations Cost Terminology

FOCIS allows you to modify some of the terminology used with Equipment Operating costs. If you click the icon that opens the Translation window and select the Terminology tab, you can choose the "Cost Factors – Equipment Operations Factor Items" category to modify the Primary or Alternate terms used to describe the three Cost Factor Types (Figure 5-96).

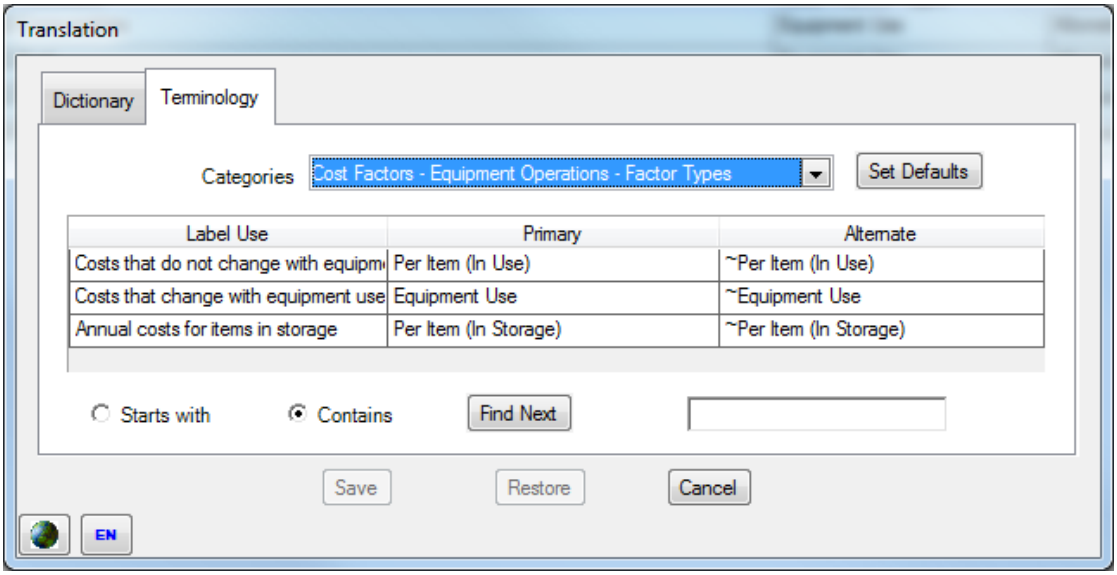


Figure 5-96. Terminology Tab (Equipment Operations – Factor Types)

If you select the "Cost Factors – Equipment Operations Metrics" category, you can modify the Primary or Alternate terms used to describe the Metrics displayed with the two Cost Factor Types that do not use a user-created Metric (Figure 5-97).

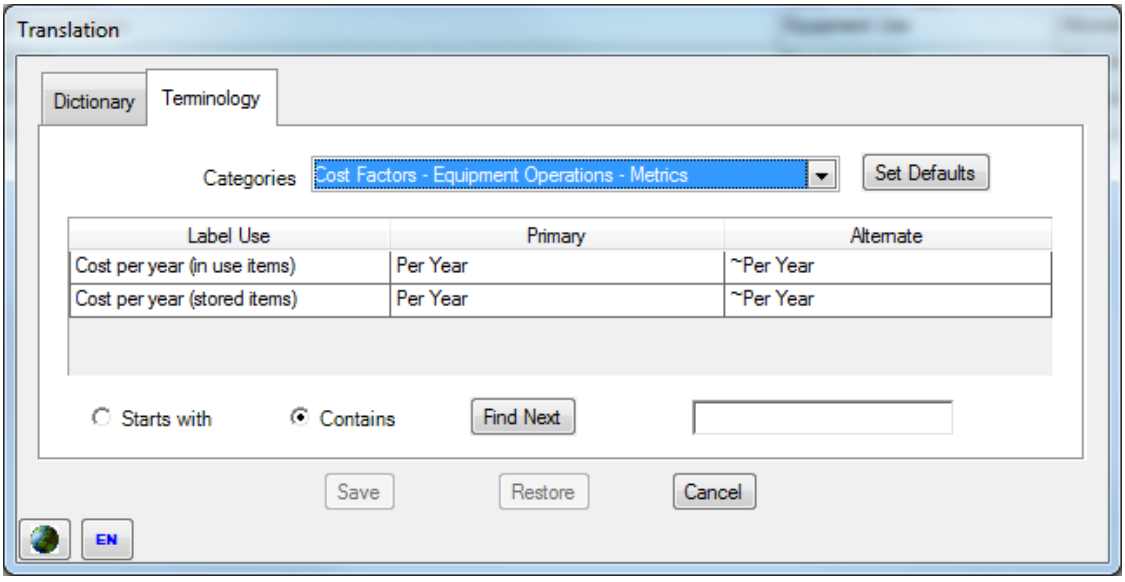


Figure 5-97. Terminology Tab (Equipment Operations – Metrics)

Equipment Overhaul Cost and Quantity Data

This section describes Equipment Overhaul costs and quantities, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Equipment Overhaul costs, and describes how to use the Equipment Overhaul cost and quantity data windows.

Using Equipment Overhauls Costs and Quantities

FOCIS provides alternative methods for modeling major maintenance costs for Equipment. The previous section described the functions of the Equipment Operations cost interfaces and how they could be used with the cost drivers of Equipment (In Use), Equipment (In Storage), and Equipment Use. The Equipment Overhauls cost window can be used if desired to represent major Equipment maintenance where the costs are based on annually scheduled maintenance events that are often called Overhauls.

Some care should be taken to avoid representing major maintenance costs in both ways. Both methods can be used with the same Equipment Item, but not to represent the same costs.

> **Note for Former DRMM Users:**
>
> The DRMM Equipment Overhaul costs window provided one screen to handle all Items of Equipment Overhaul and Support (O&S) costs. FOCIS separates Equipment Overhaul costs based on year-by-year overhaul quantities from other Equipment O&S costs in a separate window called Overhaul Costs.

Equipment Overhauls Cost Drivers and Cost Factors

The Equipment Overhauls cost window provides the ability to create cost factors that are used with scheduled or planned Equipment Overhauls. In terms of the FOCIS cost

terminology, the cost driver for this part of the cost calculation is the number of Overhauls planned for each Equipment Item.

FOCIS allows you to use up to three different types of Overhauls for each Equipment Item. Each type is considered a separate type of cost driver, and cost factors are created with a Cost Factor Type that corresponds to one of the three Overhaul types. The default names for these three different types of Overhauls in the initially installed version of FOCIS are:

- Major Overhauls (Type 1)
- Minor Overhauls (Type 2)
- Component Overhauls (Type 3)

These three Overhaul type names can be changed to fit your local maintenance practices using the Translation window. The "Types" (i.e., 1, 2, and 3) are used in the cost reports to identify costs associated with each type of Overhaul cost calculation.

The relationship between Equipment Overhaul cost drivers and Cost Factor Types is shown in Table 5-5.

Table 5-5. Cost Drivers and Cost Factor Types

Cost Driver (Unit Data)	Cost Factor Type	Cost Factor Metric	Cost Factor Use
Major Overhauls *The number of major overhauls planned year by year*	Major Overhauls	Per Overhaul	Costs that depend on the number of major overhauls.
Minor Overhauls *The number of minor overhauls planned year by year*	Minor Overhauls	Per Overhaul	Costs that depend on the number of minor overhauls.
Component Overhauls *The number of component overhauls planned year by year*	Component Overhauls	Per Overhaul	Costs that depend on the number of component overhauls.

Using the Equipment Overhaul Quantities Window

While most Operating Costs use cost driver information from the Unit Data Work Area, Overhaul Costs use Overhaul Quantity data entered in the Overhaul Quantities window in the Cost Data Work Area. An example of the Overhaul Quantities window is shown in Figure 5-98.

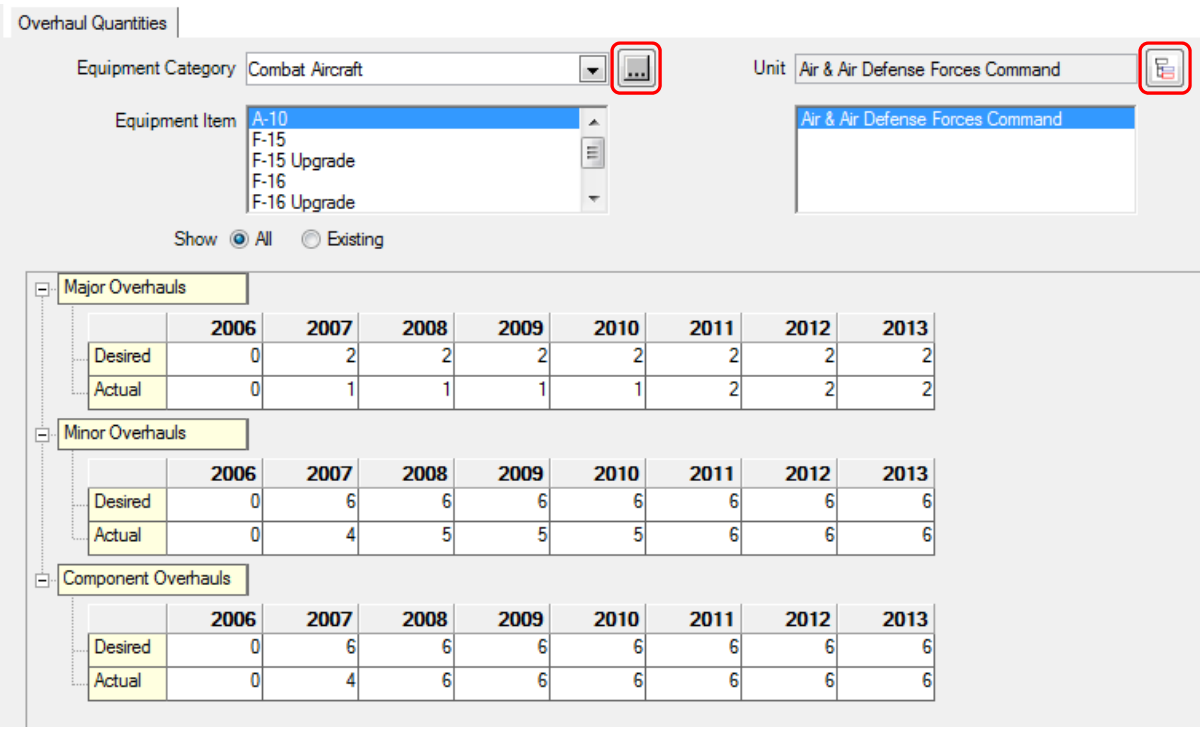


Figure 5-98. Overhaul Quantities Window

The top portion of the window is used to select the Equipment Item and the Unit whose budget funds the Overhauls. It is possible to have separate Overhaul schedules for the same Equipment Item with a different Budgeting Unit for each Overhaul profile. This could be used to represent the Overhaul costs for common equipment like a truck, where Overhaul costs were budgeted separately by each Service that wanted trucks overhauled. Use the icon in the upper right corner of the window to select the Budgeting Unit.

If there is an Equipment Item that has not yet been added to the Equipment Item list, you can use the icon to open the Equipment Setup window and add one or more new Equipment Items.

To show only Equipment Items that have some Overhaul data saved, set the Show option button to **Existing**, as shown in Figure 5-99. To enter Overhaul data for an Equipment Item not already saved, set the selector to show **All**. This will populate the Equipment Item list with all Items in the selected Equipment Category.

Figure 5-99. "Show" Radio Buttons

If Overhaul data are entered for more than one Budgeting Unit, make sure the correct Unit is selected in the list of Units.

The window provides an ability to record both a **Desired** and **Actual** quantity each year. *The values entered as **Actual** quantities will be used in the cost calculation.*

When data are entered in any cell, they may be copied to the right by right-clicking and either choosing the **Fill Right** shortcut menu option (Figure 5-100) or **Ctrl+R**. Data can be saved by either clicking the **Save** button at the bottom of the window (Figure 5-101) or pressing **Ctrl+S**.

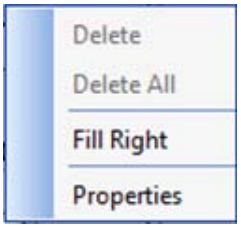


Figure 5-100. Shortcut Menu Options

Figure 5-101. Save and Restore Buttons

Using the Equipment Overhauls Cost Data Window

Many functions of the Equipment Overhauls cost data window are common to other cost data windows. A complete description of these common features is provided in the "Common Cost Data Windows Functions" section of this chapter. If you have not read this section, you should do so to have a complete understanding of the full functionality of the Equipment Overhauls cost window. Detailed instructions for using unique aspects of the Equipment Overhauls cost data and its window are provided below.

The Equipment Overhaul cost data window provides tools you can use to create, review, and modify Equipment Overhaul cost factors. It has three tabs with complementary functions, as shown in Figure 5-102:

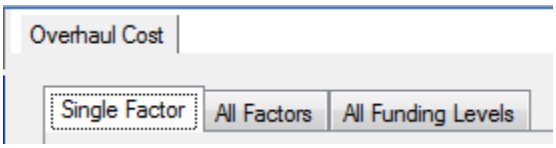


Figure 5-102. Three Tabs on Equipment Overhaul Cost Data Window

- Single Factor – the primary location for creating and working with all Standard and Annual cost factors for a single Equipment Item
- All Factors – the location for working with Standard cost factors for all Equipment Items
- All Funding Levels – the location for working with Annual Funding Levels for all Equipment Items

Single Factor Tab

Each of the Equipment Overhaul cost tabs allows you to edit existing Standard Costs or Annual Factors, but the Single Factor tab is the only tab that allows you to create new Standard Equipment Overhaul factors. Additionally, the Single Factor tab is the only one that allows you to work with both Standard and Annual factors at the same time.

The Single Factor Tab (shown in Figure 5-103) provides the following capabilities for working with Overhaul cost data for one Equipment Item at a time.

- Standard cost factors
    - View existing cost factors
    - Edit cost factor values and Base Years
    - Add new cost factors
    - Delete existing cost factors
    - Copy cost factors from one Equipment Item to any other Equipment Item
- Annual cost factors
    - View Annual cost data for multiple years
    - Modify Funding Levels or Annual Factors (with or without Inflation) for any year
    - View the Inflation data that affect cost factors in each year (when Full Details check box is selected)

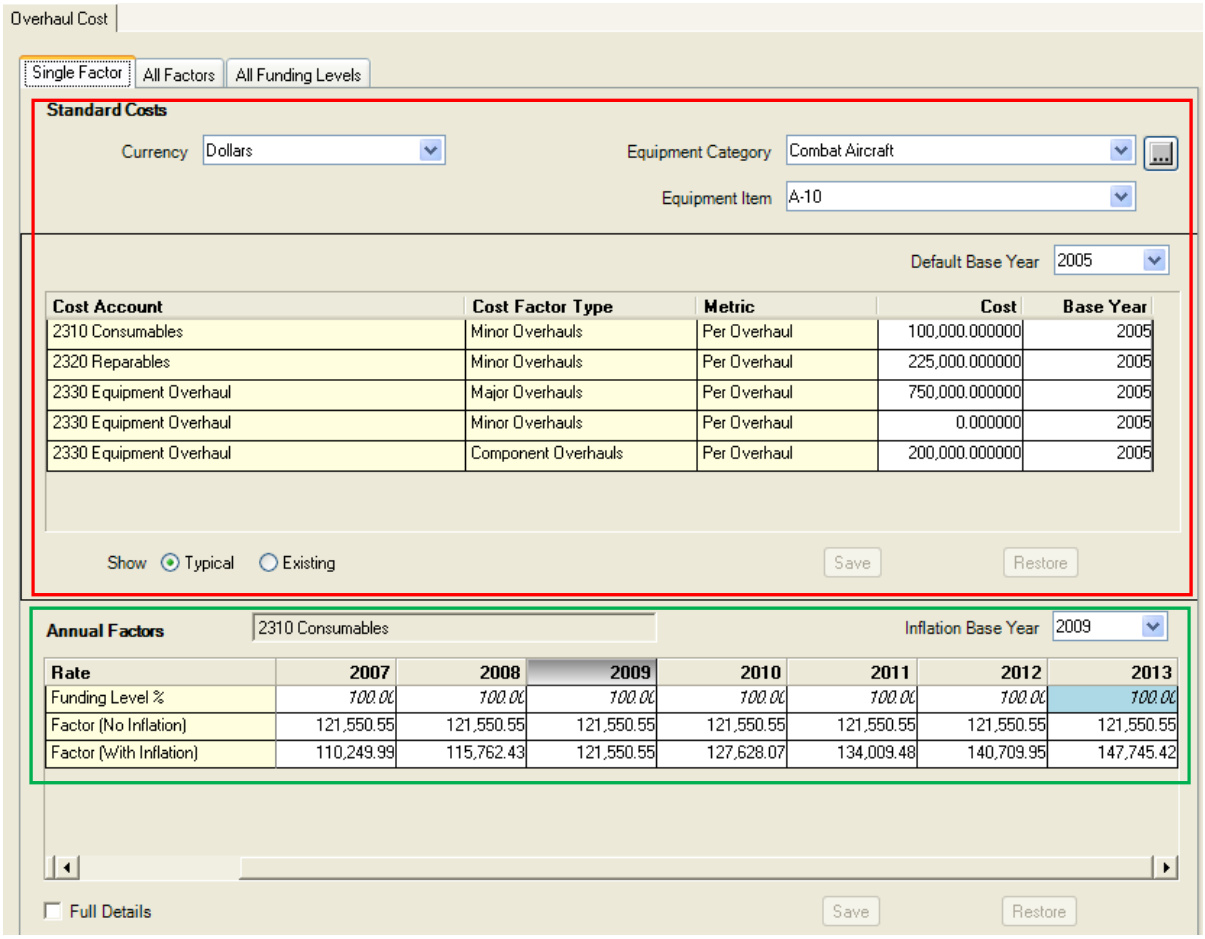


Figure 5-103. Overhaul Cost Window (Single Factor Tab)

The window has separate work areas for Standard and Annual Factors. The top area (with the red rectangle around it in Figure 5-103) is used to add, review, and modify Standard costs

and their Base Years. The bottom area (with the green rectangle around it) provides information for working with the Annual Factors of any one of the Standard costs.

Equipment Overhauls cost factors have five characteristics, listed in Table 5-6.

Table 5-6. Equipment Overhauls Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Equipment Item (e.g., UH-60 Helicopter)
Cost Factor Characteristics	• Cost Factor Type (i.e., Major, Minor, Component Overhauls) • Cost Factor Metric (i.e., Per Overhaul)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

In the Standard Costs area on the Single Factor tab of the FOCIS Equipment Overhauls window (Figure 5-103), the Equipment Item and Currency are selected in the top portion of the window, and below that a grid displays each combination of Cost Account, Cost Factor Type, and Cost Factor Metric.

The Standard Costs area in Figure 5-103 displays an example of how the O&S costs of an A-10 aircraft could be modeled. The example shows cost factors for each Overhaul type:

- Major Overhauls represent maintenance when an A-10 is sent to an industrial overhaul facility, torn down, inspected for corrosion and damage, and returned to full capability.
- Minor Overhauls represent instances where the A-10 is sent to an intermediate maintenance facility for a periodic inspection and repair without removing any major airframe components.
- Component Overhauls represent engine overhauls only.

In this example, Major and Component Overhauls have cost factors that use the Equipment Overhauls Cost Account. Minor Overhauls are modeled using two cost factors, one for consumable parts and one for reparable parts. Possibly, the Major and Component Overhauls are performed under contract, but Minor Overhauls are performed by an Air Force maintenance facility where the cost of the personnel who do the work is covered by the Unit Manning costs of the intermediate maintenance facility but the costs of repair parts must be planned based on the number of intermediate Overhauls done each year.

Select a Currency

Before working with any costs, make sure you review or set the Currency selector to its desired value. In most cases, Equipment Overhauls costs will be funded from the national budget; therefore, the Currency will be that of the country using FOCIS. FOCIS shows the default Currency when it opens the Equipment Overhauls window. If your preferred

Currency does not show when this window opens, use the Currency Setup window to move your preferred Currency to the top of the list.

Select an Equipment Category and Equipment Item

Before working with any costs, make sure to review or set the Equipment Category and Equipment Item selectors to their desired values. The Equipment Category selector controls the list of Equipment Items that are available to select. It can be set to **All** if desired, to see all Equipment Items at one time.

Working with Standard Factors

When you select a Currency, Equipment Category, and Equipment Item, all factors that exist for that combination are displayed in the grid below the selections. Some zero-value factors may also be shown if the View Mode is set to **Typical** as shown in Figure 5-104. The View Mode options are located at the bottom of the Standard Costs section of the window. You can revise any existing cost factor value by clicking in the Cost column and entering the new value.

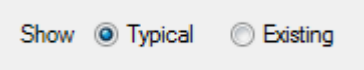


Figure 5-104. View Mode Options

Add Standard Factors

There are several ways to add Standard Factors.

- Right-click and choose **Add** from the shortcut menu. The window shown in Figure 5-105 will open.
- Right-click and choose **Copy** from the shortcut menu to copy a previously entered set of Standard Factors.
- Use the View Mode set to **Typical** if you already have Standard Factors entered for at least one Equipment Item of the same Equipment Category as the one you want to add.

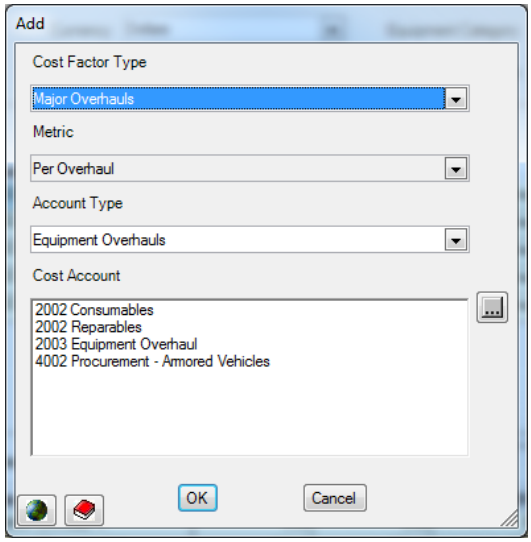


Figure 5-105. Add Window (Equipment Overhauls)

Notice in Figure 5-103 with A-10 cost data that the list of Cost Accounts includes a Cost Account that has a zero value. This is a result of having the display mode set to **Typical** and other Equipment in the Combat Aircraft category having a factor with this Cost Account and Cost Factor Type. Setting the display mode to **Typical** is an efficient way to initially enter cost data.

There are three Cost Factor Types used with Equipment Overhaul Standard costs. Use the Cost Factor Type selector on the Add window (obtained from the shortcut menu) to choose the Overhaul type that applies to the cost factor you want to add. The choices are shown in Figure 5-106.

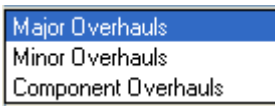


Figure 5-106. Cost Factor Types

If Cost Accounts that have been set for use with Equipment Overhauls costs (using the Cost Account Setup window) have not yet been used for the currently selected Equipment Item and Overhaul Type chosen, the unused Cost Accounts will show in the list of Cost Accounts.

If you do not see the Cost Account you want to use, use the Account Type selector to choose either **All** or one of the other Types.

You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Equipment Overhauls costs. After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Equipment Overhaul Cost window, where you will enter a cost value and Base Year.

One other way to add a new Standard Cost factor is to set the Standard Factor View Mode to **Typical**. The View Mode determines whether only the Standard Factors that have already been created are shown (**Existing**) or whether a row appears for every Cost Account that has been used with any Equipment Item of the same Equipment Category. When set to **Typical**, a row appears in the list of cost factors for all of the Cost Account, Cost Factor Type, and Cost Factor Metric combinations you are most likely going to want, based on how the costs of similar items have been modeled. Entering a Standard Factor only requires that you revise the Cost entry from its zero value to the desired value, make sure the Base Year is correct, and click **Save**.

When in the **Typical** View Mode, it is possible some Cost Accounts will have values of zero. These factors have no effect on how FOCIS calculates Equipment Overhaul costs and can be ignored. They exist only to make adding a cost factor of this type as easy as possible. If you want to see only those entries with non-zero values, set the View Mode to **Existing**.

Note: Adding Factors using the **Typical** View Mode does not work until cost factors have been created for an Equipment Item of the same Equipment Category as you have selected.

Copy Standard Factors

You can also add Equipment Overhaul Cost Standard Factors by copying an existing set of Factors (all Cost Accounts with cost values for a selected Equipment Item) to another Equipment Item.

The **Copy** function is available when you right-click and choose **Copy** from the shortcut menu. FOCIS makes a copy of all cost factors (all combinations of Currency, Cost Account,

Cost Factor Type, and Metric) for the currently selected Equipment Item. When **Copy** is selected, FOCIS opens the window shown in Figure 5-107.

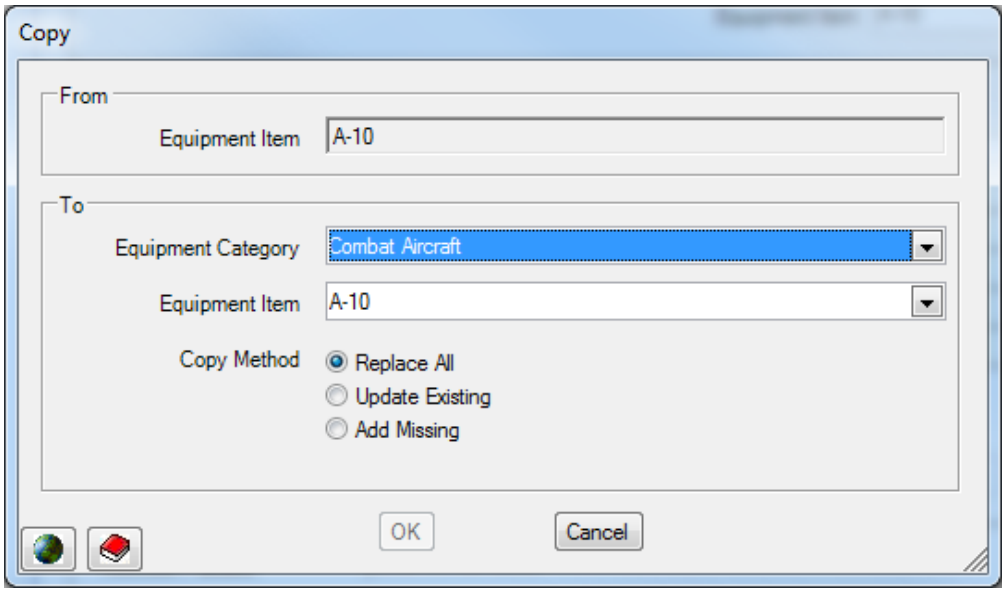


Figure 5-107. Copy Window

The top (From) portion of the window shows the Equipment Item that cost data will be copied from. The bottom (To) portion provides selectors to choose the Equipment Item you will copy the data to. The Equipment Category selector is there to help shorten the list of all Equipment Items available in the Equipment Item selector.

When you copy cost factors, there may or may not already be cost factors for the Equipment Item you have selected to copy to. If there are no existing Factors, use the **Replace All** option. If there are cost factors for the Equipment Item you have selected to copy to, you then have three options (**Replace All**, **Update Existing**, and **Add Missing**) to choose from.

The Copy Methods are described in the "Copy Method Options" section on page 5-27.

Transfer Standard Factors

Sometimes data are accidentally entered for the wrong Equipment Item, Cost Factor Type, Metric, Currency, or Cost Account. FOCIS allows you to transfer the cost and Base Year information to any other combination of Equipment Item, Cost Factor Type, Currency, and Cost Account, as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of the Transfer window is shown in Figure 5-108.

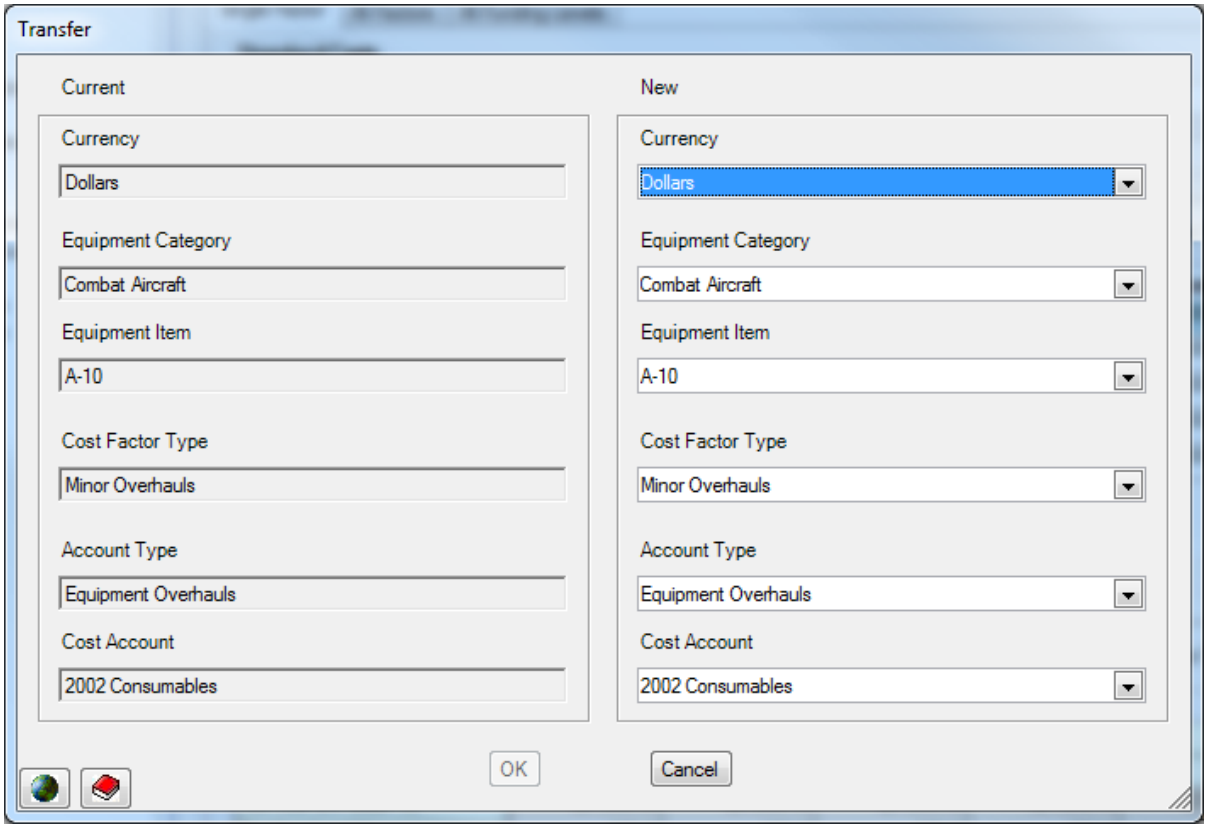


Figure 5-108. Equipment Overhauls Transfer Window

Working with Equipment Overhauls Annual Factors

A description of how to use the Annual Factors portion of the Overhaul Cost window is provided in the "Annual Factors and Funding Levels" section of this chapter on page 5-16.

Working with the Equipment Overhaul All Factors and All Funding Levels Tabs

Descriptions of how to use the All Factors and All Funding Levels tabs are provided in the "Using the All Factors Tab" and "Using the All Funding Levels Tab" sections of this chapter. To export data from these tabs, see the "Exporting Data from the All Factors Tab" and "Exporting Data from the All Funding Levels Tab" sections.

Exporting Equipment Overhaul Cost Data

To export Equipment Overhauls cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. A more complete description and an example are shown in the "Exporting Cost Data" section of this chapter. The data will be exported in the form described under the "Exporting Cost Data" section on page 5-28. A portion of the resulting Excel file is shown in Figure 5-109.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Classification: None													
2														
3	APCs/AIFVs													
4														
5		Equipment Item	Cost Account	Cost Factor Type	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
6		Bradley Fighting Vehicle	2003 Equipment Overhaul	Major Overhauls	46000	2005	100	100	100	100	100	100	100	100
7		BMP-1	2003 Equipment Overhaul	Major Overhauls	132000	2005	100	100	100	100	100	100	100	100
8		M-113A1	2003 Equipment Overhaul	Major Overhauls	46000	2005	100	100	100	100	100	100	100	100
9														
10	Combat Aircraft													
11														
12		Equipment Item	Cost Account	Cost Factor Type	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
13		A-10	2002 Consumables	Minor Overhauls	100000	2005	100	100	100	100	100	100	100	100

Figure 5-109. Exported Equipment Overhauls Data (Excel Spreadsheet)

Cost Calculations Using Equipment Overhauls Cost Factors

FOCIS uses Equipment Overhauls cost factors shown in Figure 5-103 and Overhaul quantities to calculate costs in the following way:

For each year where an Actual Overhaul Quantity has been entered for an Equipment Item and Overhaul Type and a cost factor exists for the same Equipment Item and Overhaul Type, FOCIS would multiply the Actual number of overhauls times the cost factor value.

Using the Overhaul Quantities and cost factors shown in Figure 5-110 and Figure 5-111, the calculated costs would be as shown in Figure 5-112. To make the example easier to understand, the Funding Levels are all assumed to be 100%.

Major Overhauls

	2006	2007	2008	2009	2010	2011	2012	2013
Desired	2	2	2	2	2	2	2	2
Actual	1	1	1	1	1	2	2	2

Minor Overhauls

	2006	2007	2008	2009	2010	2011	2012	2013
Desired	6	6	6	6	6	6	6	6
Actual	4	4	5	5	5	6	6	6

Component Overhauls

	2006	2007	2008	2009	2010	2011	2012	2013
Desired	6	6	6	6	6	6	6	6
Actual	2	4	6	6	6	6	6	6

Figure 5-110. Overhaul Quantities

Cost Account	Cost Factor Type	Metric	Cost	Base Year
2002 Equipment Operations - Consumables	Minor Overhauls	Per Overhaul	100,000.000000	2005
2002 Equipment Operations - Reparables	Minor Overhauls	Per Overhaul	225,000.000000	2005
2003 Equipment Overhaul	Major Overhauls	Per Overhaul	750,000.000000	2005
2003 Equipment Overhaul	Minor Overhauls	Per Overhaul	0.000000	2005
2003 Equipment Overhaul	Component Overhauls	Per Overhaul	200,000.000000	2005

Figure 5-111. Overhaul Cost Factors

13 Overhaul Costs

Include Data for: Ministry of Defense | Summarize At: None

Constant price of 2005

Currency | Equipment Category

Amount | Year

E...	Calculation M...	Cost Account	2006	2007	2008	2009	2010	2011	2012	2013
A-10	Major Overhauls	2003 Equipment Overhaul	750,000	750,000	750,000	750,000	750,000	1,500,000	1,500,000	1,500,000
	Minor Overhauls	2002 Equipment Operations - Consumables	400,000	400,000	500,000	500,000	500,000	600,000	600,000	600,000
		2002 Equipment Operations - Reparables	900,000	900,000	1,125,000	1,125,000	1,125,000	1,350,000	1,350,000	1,350,000
	Minor Overhauls Total		1,300,000	1,300,000	1,625,000	1,625,000	1,625,000	1,950,000	1,950,000	1,950,000
	Component	2003 Equipment Overhaul	400,000	800,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
A-10 Total			2,450,000	2,850,000	3,575,000	3,575,000	3,575,000	4,650,000	4,650,000	4,650,000

Figure 5-112. Cost Results from the FOCIS Calculation (in 2005 Prices)

For simplicity, the cost calculation was done in 2005 prices and all of the A-10 Overhaul cost factors are in 2005 prices, so there is no adjustment for inflation in the examples. Had any of the Base Years been different from the cost calculation Base Year, FOCIS would have adjusted the cost factor values. The following paragraphs describe each of the calculations.

- Major Overhauls: There is one A-10 cost factor for Major Overhauls. In each year, FOCIS uses the Actual quantity of Major Overhauls and the cost factor value 750,000 for Cost Account "2003 Equipment Overhauls." Therefore, the totals would be:
  - 750,000 in years with 1 overhaul, and
  - 1,500,000 in years with 2 overhauls.
- Minor Overhauls: There are two A-10 cost factors for Minor Overhauls. In each year, FOCIS uses the Actual quantity of Minor Overhauls and the cost factor values 100,000 for Cost Account "2002 Equipment Operations – Consumables" and 225,000 for Cost Account "2002 Equipment Operations – Reparables." Therefore, the totals would be:
  - Consumables: 400,000 in years with 4 overhauls, 500,000 in years with 5 overhauls, and 600,000 in years with 6 overhauls.
  - Reparables: 900,000 in years with 4 overhauls, 1,125,000 in years with 5 overhauls, and 1,350,000 in years with 6 overhauls.
- Component Overhauls: There is one A-10 cost factor for Component Overhauls. In each year, FOCIS uses the Actual quantity of Component Overhauls and the cost factor value 200,000 for Cost Account "2003 Equipment Overhauls." Therefore, the totals would be:
  - 400,000 in years with 2 overhauls,
  - 800,000 in years with 4 overhauls, and
  - 1,200,000 in years with 6 overhauls.

Modifying the Equipment Overhaul Cost and Quantity Terminology

FOCIS allows you to modify some of the terminology used with Equipment Overhaul costs. If you click the icon that opens the Translation window and select the Terminology tab, you can choose the "Cost Factors – Equipment Overhauls – Factor Types" category to modify the Primary or Alternate terms used to describe the three Cost Factor Types (Figure 5-113).

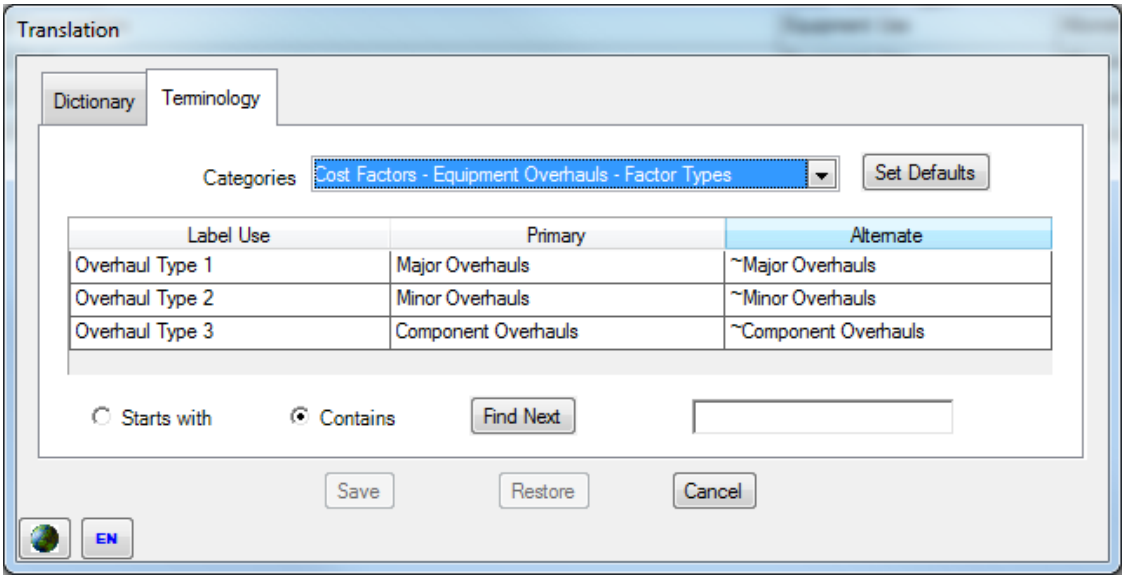


Figure 5-113. Terminology Tab (Equipment Overhauls – Factor Types)

If you select the "Cost Factors – Equipment Overhauls – Metrics" category, you can modify the Primary or Alternate terms used to describe the Metric used with Equipment Overhaul Costs (Figure 5-114).

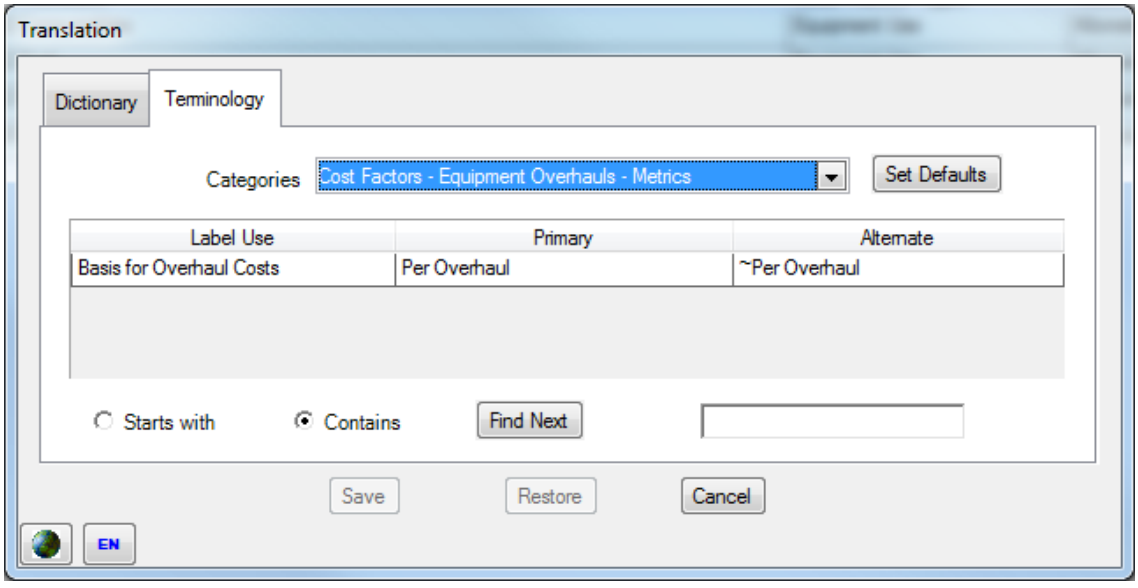


Figure 5-114. Terminology Tab (Equipment Overhauls – Metrics)

If you select the “Cost Factors – Equipment Overhauls – Quantities” category, you can modify the Primary or Alternate terms used to describe the Quantity used with Equipment Overhaul Costs (Figure 5-115).

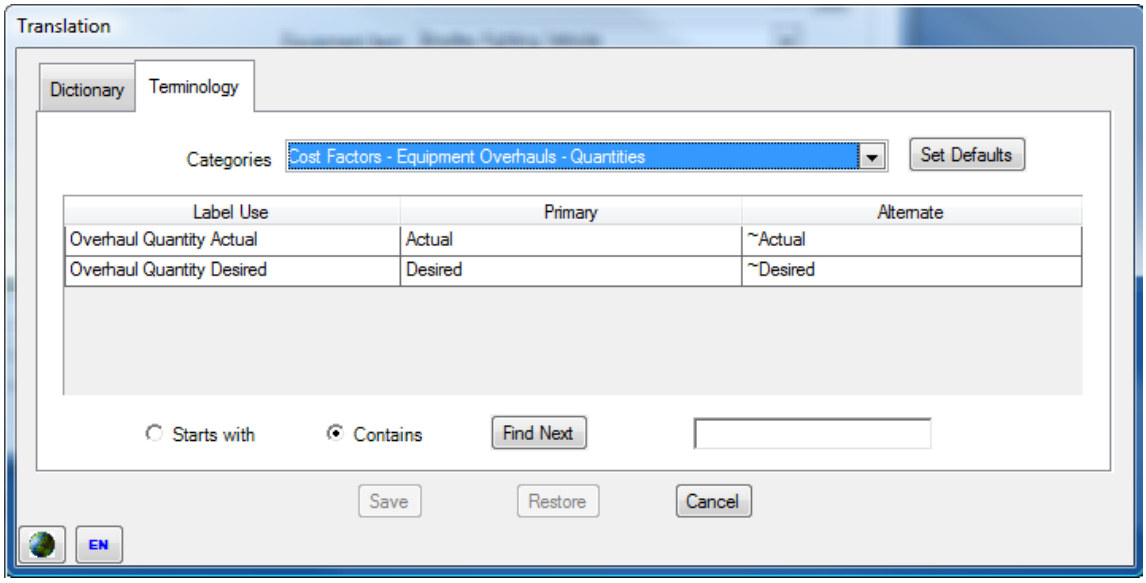


Figure 5-115. Terminology Tab (Equipment Overhauls – Quantities)

Other window labels can be changed using the Dictionary tab of the Translation window.

Unit Operations Cost Data

This section describes Unit Operations costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Unit Operations costs, and describes how to use the Unit Operations cost data windows.

Unit Operations Cost Drivers and Cost Factors

The Unit Operations cost window provides the ability to create cost factors for expenses that are related to a Unit but not included with Personnel or Equipment costs. FOCIS links cost factors to cost drivers through a cost factor characteristic called the Cost Factor Type**.** The relationship between Unit Operations cost drivers and Cost Factor Types is shown in Table 5-7.

Table 5-7. Cost Drivers and Cost Factor Types

Cost Driver (Unit Data)	Cost Factor Type	Cost Factor Metric	Cost Factor Use
Unit existence in the force structure in each year	Per Unit	Per Year	Costs that depend only on whether a Unit is in the force structure in a year.
Unit Activity *The quantity of Unit activity for a user-selected Metric in each year.*	Unit Activity	User-selected Metric (e.g., Field Exercises, etc.)	Costs that depend on actual Unit activity measured in terms of a *user-selected* Metric.
Unit Personnel *The number of people of a user-specified type in the Unit.*	Per Person	Actual Active Personnel Actual Reserve Personnel Actual Civilian Personnel Authorized Active Personnel Authorized Reserve Personnel Authorized Civilian Personnel Personnel Type	Costs that depend on the number of personnel in a Unit. The type of personnel affected by a cost factor is determined by the cost factor Metric.

Unit Operations cost factors that use the **Per Person** Cost Factor Type are different from cost factors created using the Personnel cost window. Unit Operations cost factors using the Unit Operations **Per Person** Cost Factor Type apply *only to Personnel in the Unit for which the cost factor is created*.

Unit Operations cost factors have five characteristics, listed in Table 5-8.

Table 5-8. Unit Operations Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Unit Name (e.g., 11th Infantry Battalion)
Cost Factor Characteristics	• Cost Factor Type (i.e., Per Unit, Unit Activity, Per Person) • Cost Factor Metric (i.e., Per Year, user-selected Metric, a Personnel Type or group of related Personnel Types)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

There are many ways to model Unit costs. If expenditure data are available at the Unit level represented in the FOCIS force structure, it is often sufficient to represent these expenses as cost factors with the Cost Factor Type **Per Unit** (Metric, **Per Year**). This is often the case for expenses such as "Heat, Water, & Electricity" or "Building Maintenance."

Where accounting data are not provided at the individual Unit level, it is sometimes easiest to calculate the average cost per person and create a cost factor using the **Per Person** Cost Factor Type. This can often be done in a way that accounts for major differences between

significantly different types of Units. If information is available at the Division level but the force is entered at the Battalion level, the total Division costs for an expense like “Heat, Water, & Electricity” can be divided by the total number of Personnel in the Division to get a cost factor value that applies only to the Units in that Division.

Choosing whether to use a **Per Unit** or **Per Person** cost factor depends on the available cost data and the nature of the changes that are anticipated in the future force. If the manning in all Units is expected to remain roughly constant, a **Per Unit** cost factor will provide as much information as a **Per Person** cost factor. However, if shifts in Unit manning are expected, having a **Per Person** representation of costs will support more accurate estimates of the funds that gaining and losing Units will require.

There are advantages to representing Unit Operating costs at the same level as Units are shown in the force structure (Command Level), whether as **Per Unit** or **Per Person** cost factors.

The first advantage is that when adding or removing Units in the force structure, the effect on total Unit Operating costs is accounted for automatically in the cost calculation. Another advantage is that by treating the costs in a way that links the costs to Unit size, answers to questions that depend on the total costs of differently sized Units can be answered more accurately.

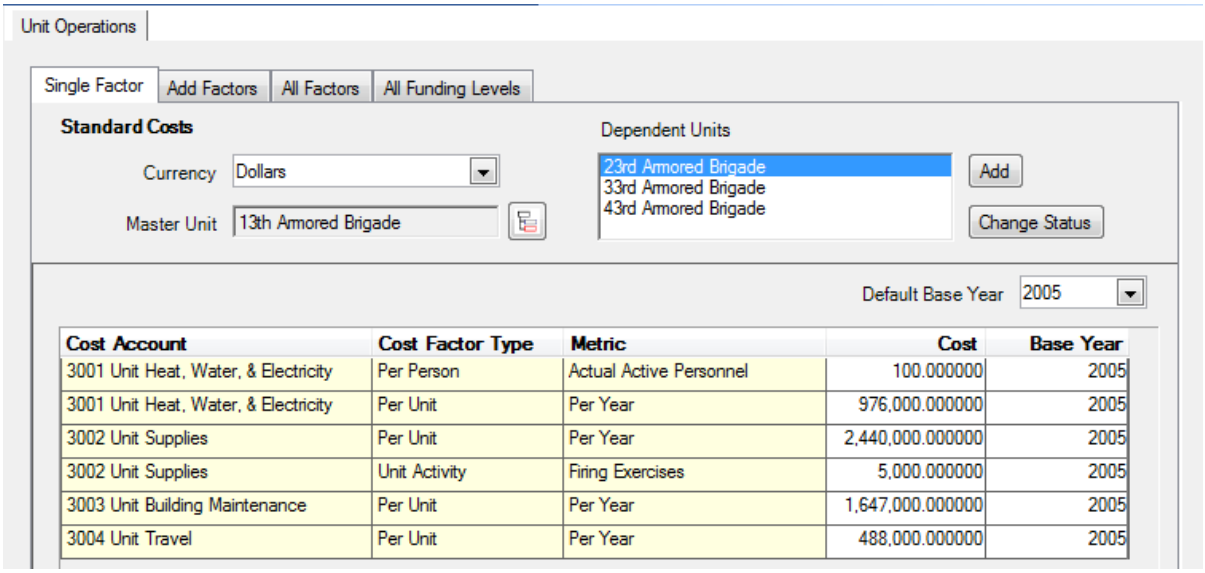
The **Per Person** Cost Factor Type is used in special circumstances. When a cost is clearly dependent on the number of Personnel, but does not apply to Personnel in all Units, the **Per Person** Type allows you to create a cost factor that depends on the number of Personnel but only applies in Units where that cost factor is used.

One example is a special allowance that only applies to Personnel in some Units. If Personnel in only selected Units qualify for an extra food allowance, then the extra amount can be modeled as a Unit Operations cost using the **Per Person** Cost Factor Type. If there is an allowance that applies only to soldiers in the Active Personnel Class, then the **Actual Active Personnel** Metric can be used. If an allowance applies to only certain Personnel Types, then the **Personnel Type** Metric could be used and the costs are associated with the Personnel Types you select.

Using the Unit Operations Cost Data Window

Many functions of the Unit Operations cost data window are common to other cost data windows. A complete description of these common features is provided in the “Common Cost Data Windows Functions” section of this chapter. If you have not read this section, you should do so to have a complete understanding of the full functionality of the Unit Operations cost window. Detailed instructions for using unique aspects of the Unit Operations Cost Data and its window are provided below.

In the Standard Costs area on the Single Factor tab of the FOCIS Unit Operations cost window (Figure 5-116), the Unit and Currency are selected in the top portion of the window, and below that a grid displays each combination of Cost Account, Cost Factor Type, and Cost Factor Metric.



Cost Account	Cost Factor Type	Metric	Cost	Base Year
3001 Unit Heat, Water, & Electricity	Per Person	Actual Active Personnel	100.000000	2005
3001 Unit Heat, Water, & Electricity	Per Unit	Per Year	976,000.000000	2005
3002 Unit Supplies	Per Unit	Per Year	2,440,000.000000	2005
3002 Unit Supplies	Unit Activity	Firing Exercises	5,000.000000	2005
3003 Unit Building Maintenance	Per Unit	Per Year	1,647,000.000000	2005
3004 Unit Travel	Per Unit	Per Year	488,000.000000	2005

Figure 5-116. Unit Operations Cost Data Window (Standard Costs Area)

Unit Operations costs offer an opportunity not available with other FOCIS costs—the ability to use one set of Unit cost factors to define cost factors for other Units. This ability to establish one Unit as a "Master" Unit that defines cost factors used with other Units (i.e., Dependent Units) is described in detail below.

Figure 5-116 displays an example of how the costs of a Unit could be modeled. The example shows six cost factors. This is a fairly complicated representation of the Unit costs and is more complex than is required for most Units.

Notice that there are two cost factors for Unit Heat, Water, & Electricity and two for Unit Supplies. In the case of Unit Heat, Water, & Electricity, part of the costs are modeled as **Per Unit Per Year** costs and part are modeled as costs that depend on the number of Active personnel in the Unit in each year. Unit Supplies are modeled as a combination of **Per Unit Per Year** costs and costs that depend on the number of firing exercises planned for each year.

The Unit Operations cost data window provides tools you can use to create, review, and modify Unit Operations cost factors. It has four tabs with complementary functions, as shown in Figure 5-117.

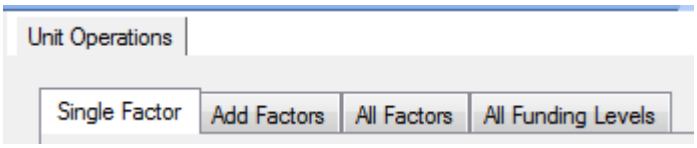


Figure 5-117. Four Tabs on Unit Operations Cost Data Window

- Single Factor – the primary location for creating and working with all Standard and Annual Unit Operations cost factors for a single Master Unit and its Dependent Units
- Add Factors – the location for using an alternative method to create and edit Standard Unit Operations cost factors for one or more Units
- All Factors – the location for working with Standard cost factors for all Units
- All Funding Levels – the location for working with Annual Funding Levels for all Units

Single Factor Tab

The Single Factor tab (shown in Figure 5-118) provides the following capabilities for working with cost data for one Unit at a time:

- Standard Cost factors
    - View existing cost factors
    - Edit cost factor values and Base Years
    - Add new cost factors
    - Delete existing cost factors
- Annual Cost factors
    - View Annual Cost data for multiple years
    - Modify Funding Levels or annual factors (with or without Inflation) for any year
    - View the Inflation data that affect cost factors in each year (when Full Details check box is selected)

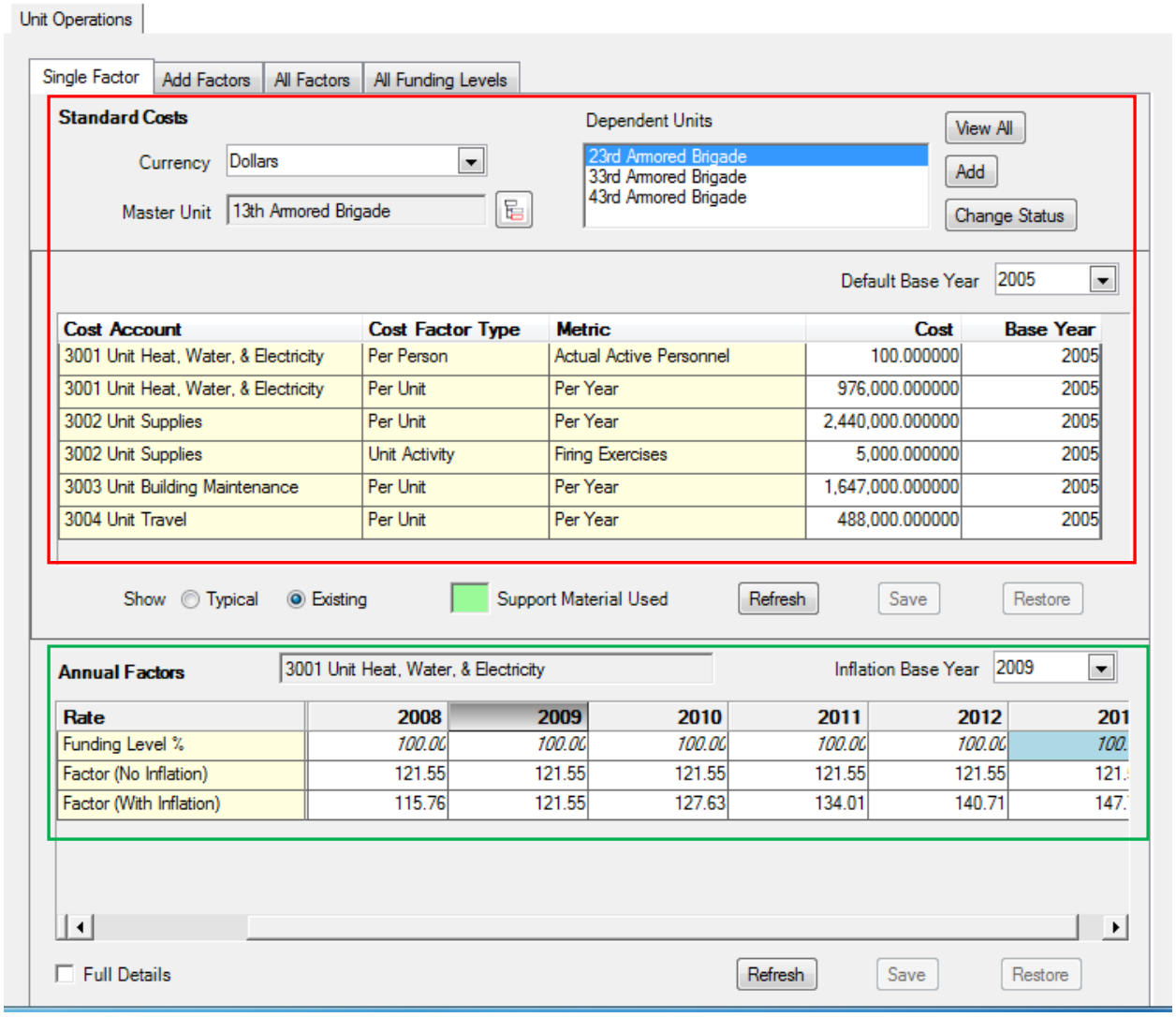


Figure 5-118. Unit Operations Cost Data Window (Single Factor Tab)

The window has separate work areas for Standard Costs and Annual Factors. The top area (with the red rectangle around it in Figure 5-118) is used to add, review, and modify Standard costs and their Base Years. The bottom area (with the green rectangle around it) provides information for working with the Annual Factors of any one of the Standard factors.

Select a Currency

Before working with any costs, make sure you review or set the Currency selector to its desired value. In almost every case, Unit Operations costs will be funded from the national budget; therefore, the Currency will be that of the country using FOCIS. FOCIS shows the default currency when it opens the Unit Operations window. If your preferred Currency does not show when this window opens, use the Currency Setup window to move your preferred Currency to the top of the list.

Select a Unit

Before working with any costs, make sure the Unit name you are intending to work with shows either as the Master Unit or in the list of Dependent Units.

If several Units have the same Unit Operations costs, FOCIS allows you to link the Units to one another and only work with cost factors for one of the Units. To do this, you will designate one Unit as the Master Unit and the other Units will be included as Dependent Units, as shown in Figure 5-119. Data entered for the Master Unit are automatically duplicated for all Dependent Units.

Note: All linked Units will therefore have identical cost factors. It is not possible to have some shared cost factors and some that are unique to one of the linked Units.

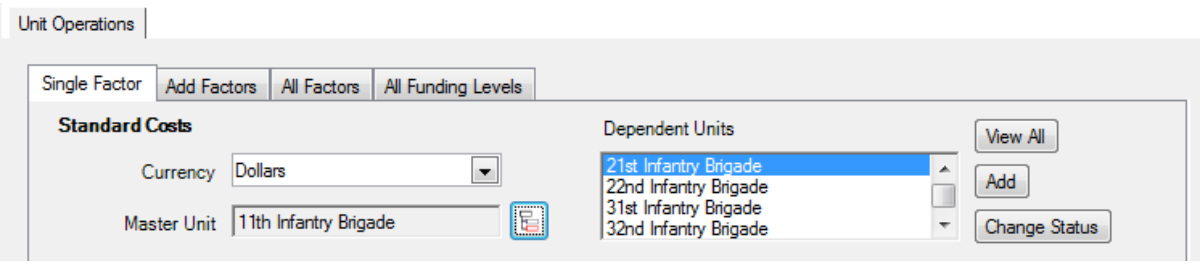


Figure 5-119. Unit Operations Cost Data Window (Dependent Units Selected)

In Figure 5-119, the 11th Infantry Brigade is designated as the Master and all other Infantry Brigades are included as Dependent Units. When you select any of the Units that are linked as Master and Dependent Units, the display will automatically show the previously designated Master Unit as the Master Unit and all Dependent Units in the Dependent Units list. If you select the **View All** button on the top right part of the window, FOCIS displays every Unit in the model as well as the master-dependent relationships. Figure 5-120 shows the master-dependent relationship between 11th Infantry Brigade and the other Infantry Brigades.

When each new Unit is created, it is designated as its own Master Unit. Units shown in **red** in Figure 5-120 are Units that have subordinate Units other than themselves. Notice that 1st Corps HQ shows as black on line 2 (because it is its own Master Unit) and red on line 9 (because it is the Master Unit to the 2nd Corps HQ).

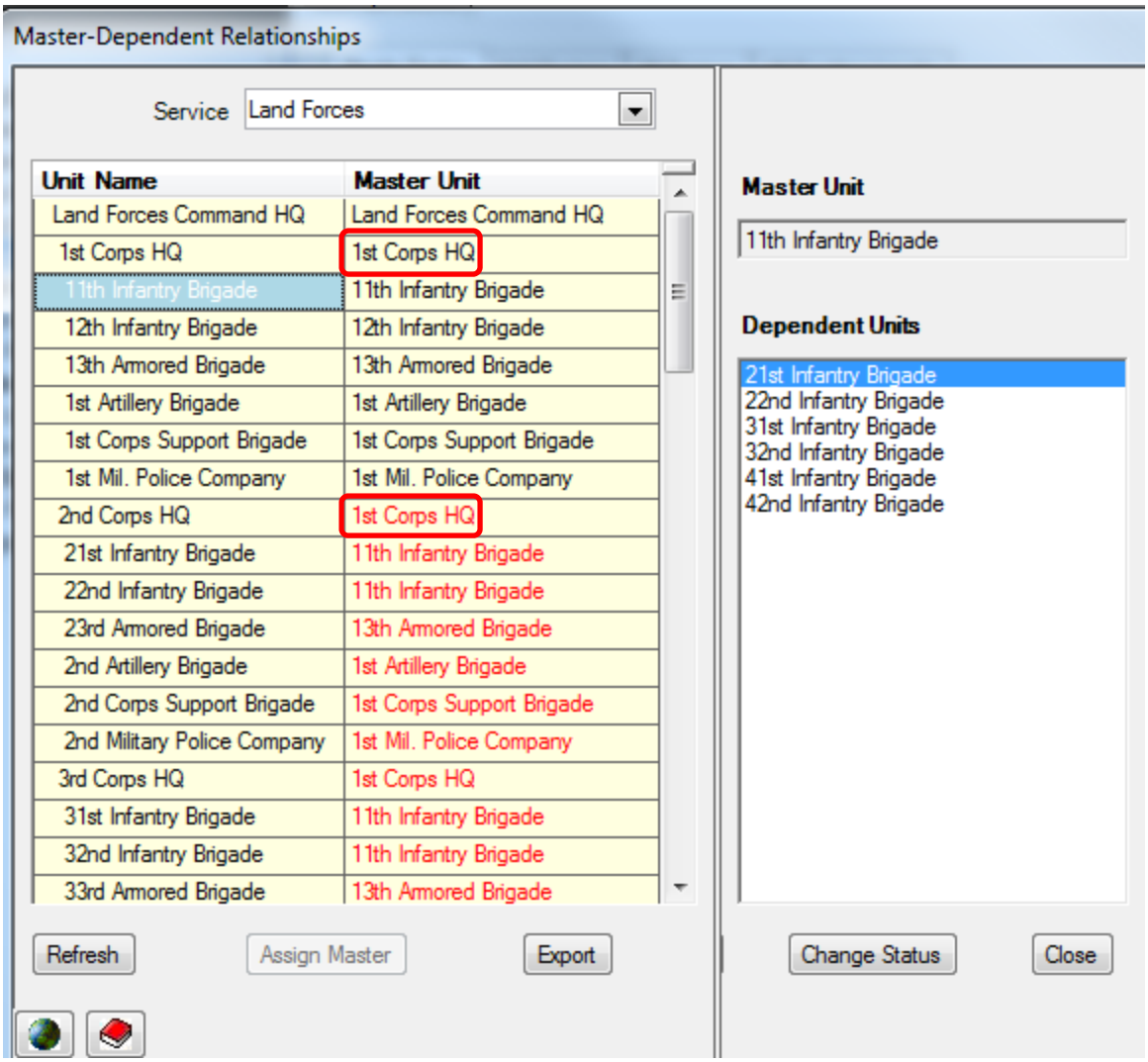


Figure 5-120. Master–Dependent Relationship Window

Note: Designating Dependent Units is an option. Figure 5-121 shows the same window and tab with no Dependent Units selected.

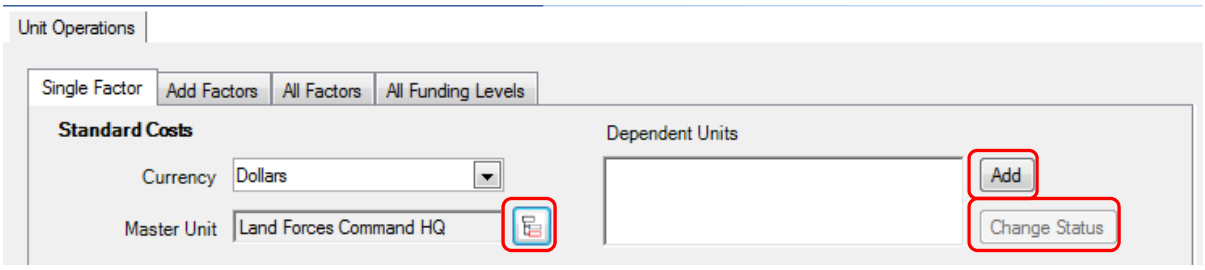


Figure 5-121. Unit Operations Cost Data Window (No Dependent Units Selected)

If you want to establish a set of Units with the same cost factors, first use the icon to open the Pick Force Unit window, where you can select any Unit. The Unit you select will be

shown as the Master Unit (if not already assigned as a Dependent Unit). See Figure 5-122. After a Master Unit is selected, you may add Dependent Units by clicking the **Add** button. This will also open the Pick Force Unit window, but the top Unit displayed will be the one you selected in the previous step, as shown in Figure 5-123. In this window, you can then pick a Dependent Unit. The available Units are restricted to being in the same Service. This can be repeated as many times as necessary to add all desired Dependent Units.

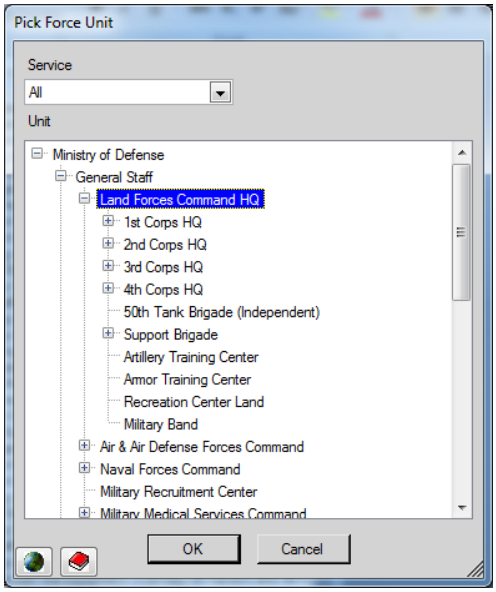


Figure 5-122. Pick Force Unit Window (Selecting Master Unit)

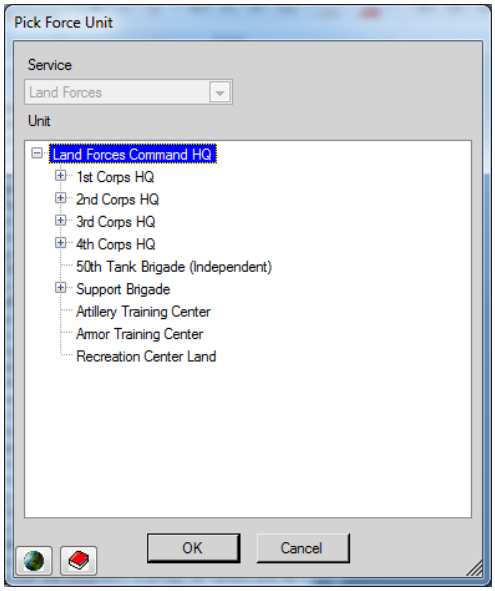


Figure 5-123. Pick Force Unit Window (Selecting Dependent Units)

When there are Dependent Units in the list, you can choose to change the status of one of the Dependent Units by first highlighting that Unit in the list of Dependent Units and then clicking the **Change Status** button (see Figure 5-121). That will open the Change Status window shown in Figure 5-124.

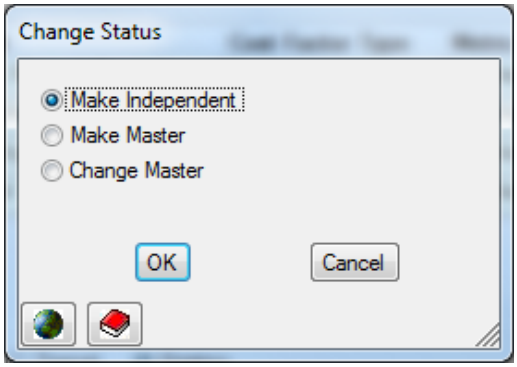


Figure 5-124. Change Status Window

In the Change Status window, select the option that will provide the desired outcome, as follows:

- **Make Independent** – The link between the Master and the selected Dependent Unit will be broken. All cost factors that exist for the Master will remain with the formerly Dependent Unit and they can be revised separately.

- **Make Master** – The selected Dependent Unit will be made the Master Unit and the former Master Unit will be shown as a Dependent Unit. The cost factors and their values will not be changed.
- **Change Master** – The Pick Force Unit window will open and you may select a new Master Unit. The selected Dependent Unit will be made a Dependent Unit under the selected Master Unit. The cost factors and cost factor values will become those of the new Master Unit.

Working with Standard Factors

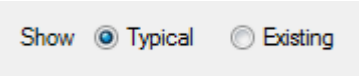


Figure 5-125. View Mode Options

When you select a Currency and Unit, all factors that exist for that combination are displayed in the grid below the selections. Some zero-value factors may also be shown if the View Mode is set to **Typical** as shown in Figure 5-125. The View Mode options are located at the bottom of the Standard Costs section of the window. You can revise any existing cost factor value by clicking in the Cost column and entering the new value.

Add Standard Factors

There are several ways to add Standard Factors:

- Right-click in the grid and choose **Add** from the shortcut menu. The window shown in Figure 5-126 will open.
- Use the View Mode set to **Typical**. When set to **Typical**, FOCIS displays cost factors with the Per Unit Cost Factor Type and all Cost Accounts marked for usage with Unit Operations costs.
- Use the Add Factors tab. This functionality is discussed in detail in the "Working with the Add Factors Tab" section of this chapter on page 5-93.

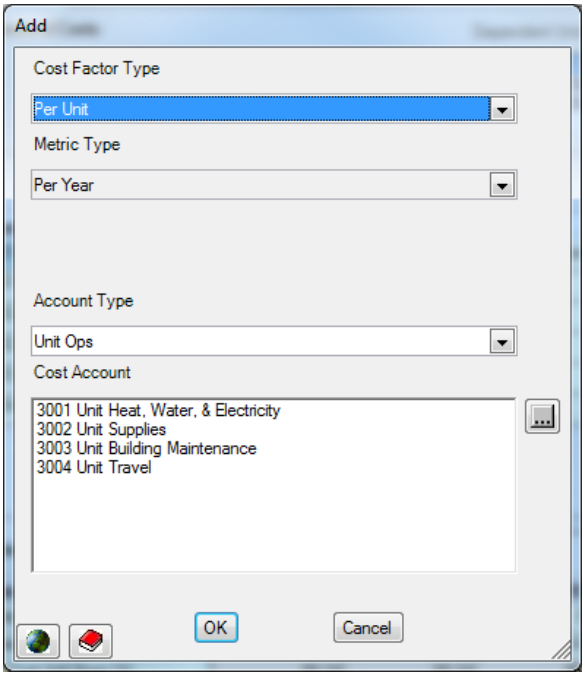


Figure 5-126. Add Window

When in the **Typical** View Mode, it is possible some cost factors will have a value of zero. These factors have no effect on how FOCIS calculates Unit Operations costs and can be ignored. Setting the display mode to **Typical** is an efficient way to initially enter cost data.

There are three Cost Factor Types used with Unit Operations Standard costs. Use the Cost Factor Type selector on the Add window to choose the option that applies to the cost factor you want to add. The choices are shown in Figure 5-127. If you choose **Per Unit** for the Cost Factor Type, FOCIS assigns **Per Year** for the Metric Type. If you choose **Unit Activity** for the Cost Factor Type, you will be able to choose a Metric such as **Training Exercises** or any other Metric you have created in the Metrics Setup window and associated with the selected Unit. Additionally, if you choose **Unit Activity**, the display will change to include an Activity Metric field (shown in Figure 5-128) with the icon next to it. Clicking this icon will open the Metrics Setup window, where you can add a missing Metric, if necessary. Remember to set the usage to **Unit Activity** for any Metric you want to use with Unit Operations costs.

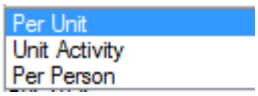


Figure 5-127. Cost Factor Types

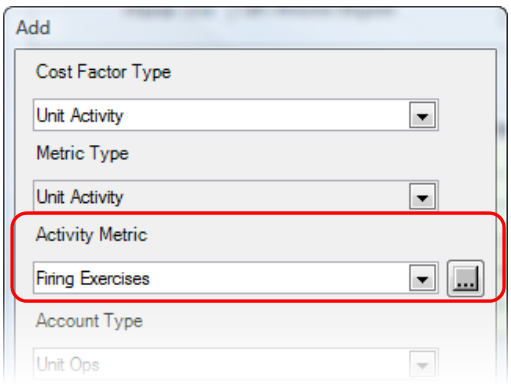


Figure 5-128. Added "Activity Metric" Field

If Cost Accounts that have been set for use with Unit Operations costs (using the Cost Account Setup window) have not yet been used for the currently selected Unit, the unused Cost Accounts will show in the list of Cost Accounts. If you do not see the Cost Account you want to use, use the Account Type selector to choose either **All** or one of the other Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Unit Operations costs. After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Unit Operations Cost window, where you will enter a cost value and Base Year.

The View Mode determines whether only the Standard factors that have already been created are shown or whether a row appears for every Cost Account marked for usage with Unit Operations costs and the **Per Unit** Cost Factor Type**.** Adding a Standard factor only requires that you revise the Cost entry from its zero value to the desired cost factor value, make sure the Base Year is correct, and click **Save**.

When in the **Typical** View Mode, it is possible that some Cost Accounts will have values of zero. These factors have no effect on how FOCIS calculates Unit Operations costs and can be ignored. They exist only to make adding a cost factor of this type as easy as possible. If you want to see only those entries with non-zero values, set the View Mode to **Existing**.

Working with the Add Factors Tab

The Add Factors tab accesses an alternative means of creating or editing cost factors for one Cost Account and one or more Units. Figure 5-129 shows the Add Factors tab.

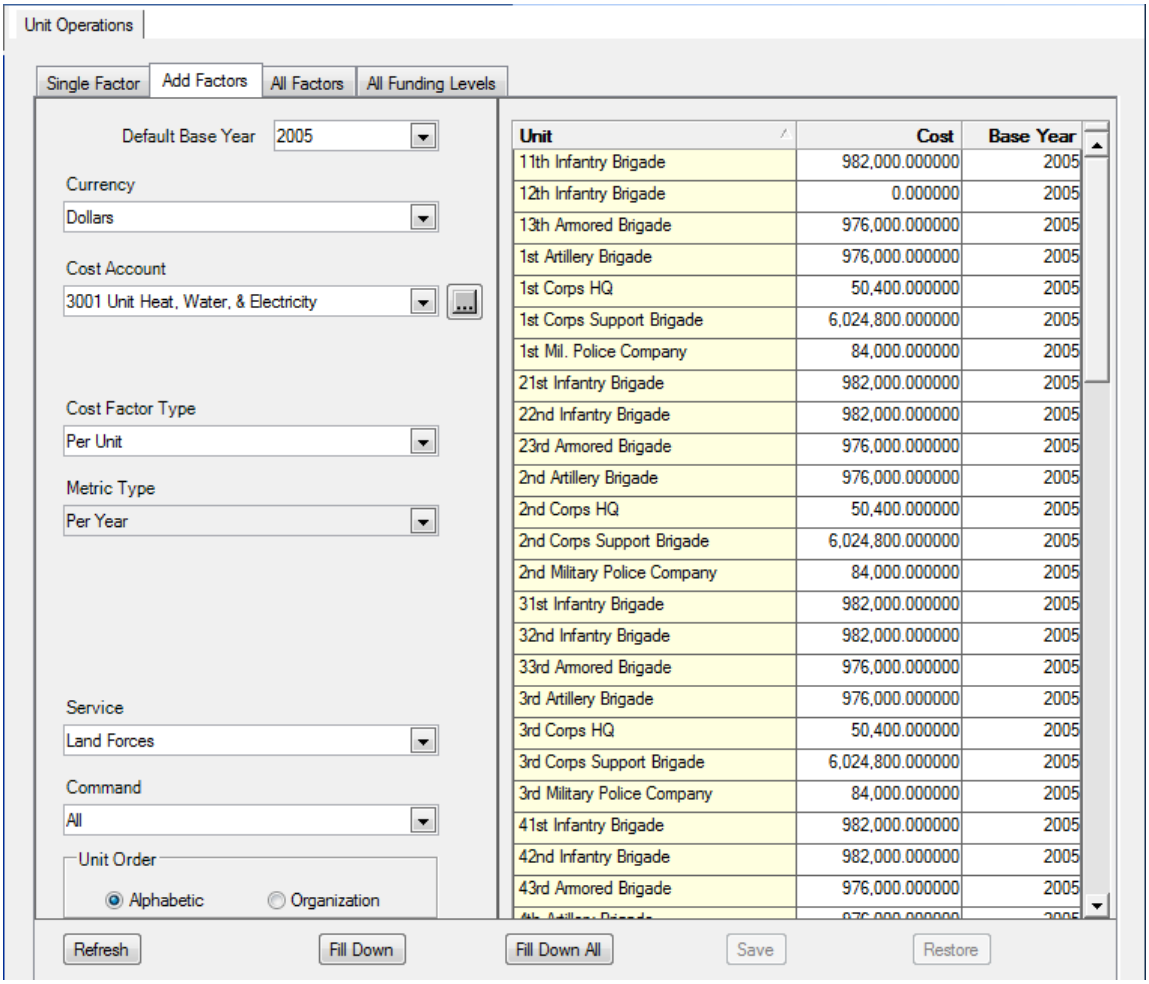


Figure 5-129. Unit Operations Cost Window (Add Factors Tab)

When you click on the Add Factors tab, the displayed values for the Currency, Cost Account, Cost Factor Type, Metric Type, and Service criteria are those that were previously selected on the Single Factor tab. The Service selector can be set to **All**. The Command selector is set by default to **All**. Any single Command level can be selected.

This tab is designed to display **all** possible cost factors for:

- One Currency
- One Cost Account
- One Cost Factor Type
- One Metric Type
- One or All Services
- One or All Command Levels

Where data for the combination of selected Unit Operations cost factor criteria already exist, the previously entered amounts and Base Years are shown in the grid, by Unit. Where no previous data were entered, a zero value row is created with the default Base Year. You can quickly and easily enter amounts where none previously existed or can revise the previously entered values.

Notice that there is no selection of a Master Unit. When a Command Level is chosen, all Units of the selected Service(s) with that Command Level will be displayed in the grid. The example in Figure 5-130 shows Units with **Company** as the selected Command Level and **Land Forces** as the selected Service.

Unit	Cost	Base Year
1st Mil. Police Company	42,000.000000	2005
2nd Military Police Company	42,000.000000	2005
3rd Military Police Company	42,000.000000	2005
4th Military Police Company	42,000.000000	2005
Depot #1	10,000.000000	2005
Depot #2	10,000.000000	2005
Depot #3	15,000.000000	2005
Recreation Center Land	10,000.000000	2005

Figure 5-130. Sample Grid with Company Command Level Units in Land Forces

You may change the order of the Units shown in the grid by selecting either the **Alphabetic** or **Organization** option under **Unit Order** at the bottom of the selection criteria side of the window, shown in Figure 5-131.

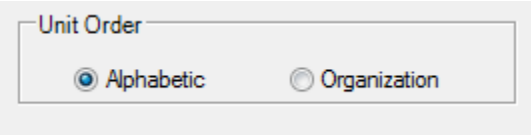


Figure 5-131. Unit Order Options

To make a change in the data, click in a cell and enter new data. The data value color changes to red (Figure 5-132).

Unit	Cost	Base Year
1st Mil. Police Company	35000	2005
2nd Military Police Company	42,000.000000	2005
3rd Military Police Company	42,000.000000	2005
4th Military Police Company	42,000.000000	2005
Depot #1	10,000.000000	2005

Figure 5-132. Grid with Modified Data

When any move is made out of the selected cell (by using the mouse or the **Tab** key), or the **Save** button is selected, all Units that are linked in a Master/Dependent relationship will have

their factor changed. In Figure 5-133, the cost cell for the 3rd Military Police Company was selected with the mouse, the value was changed, and all four Units that were linked in a Master/Dependent relationship were changed.

Unit	Cost	Base Year
1st Mil. Police Company	35,000.000000	2005
2nd Military Police Company	35,000.000000	2005
3rd Military Police Company	35000	2005
4th Military Police Company	35,000.000000	2005
Depot #1	10,000.000000	2005
Depot #2	10,000.000000	2005
Depot #3	15,000.000000	2005
Recreation Center Land	10,000.000000	2005

Figure 5-133. Data Value Changes in Master/Dependent Units

When changes are made, the **Save** and **Restore** buttons are activated. After making a change, you may click the **Fill Down** or **Fill Down All** button to copy the data to Units that are not in a Master/Dependent relationship as appropriate. Click the **Save** button to save your changes. If you decide not to make the changes, click the **Restore** button and the previously stored values will be displayed (see buttons shown in Figure 5-134).

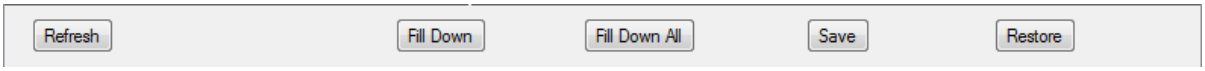


Figure 5-134. Button Row at Bottom of Window

The selectors on the selection criteria (left) side of the window allow you to change the Default Base Year, Currency, Cost Account, Cost Factor Type, Metric Type, Service, and Command Level (see Figure 5-129). Each time you change any of these criteria, the grid displays the message shown in Figure 5-135.

Figure 5-135. "Refresh Data" Message

When this happens, click the **Refresh** button at the bottom of the window to display the latest data for the selected criteria. When you click the **Refresh** button, the set of data displayed in the grid shows the results of the new selections.

If the desired Cost Account does not appear in the drop-down selection list, use the button to open the Cost Account Selector window (Figure 5-136). On this window, add a check mark under **Unit Ops** to assign the desired account for use in Unit Operations costing.

Similarly, checking the **Equip Ops** column will allow the cost account to be used for equipment operations

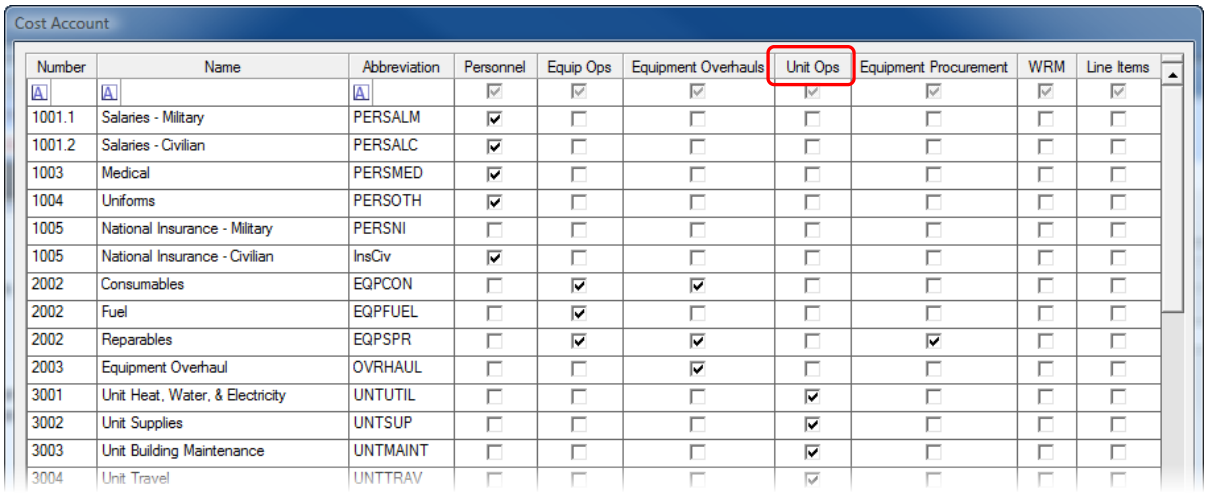


Figure 5-136. Cost Account Selector Window

If the Add Factors tab is used to enter data, the entered values are considered to be the standard values for the Cost Account and Unit combination and all Funding Level values are set to 100%. To make changes in the Funding Level values, select the Single Factor tab or the All Funding Levels tab.

When clicking from the Add Factors tab to the Single Factor tab, the Single Factor tab will display the data for the selected Unit and the Typical or Existing Unit Operations Cost Account criteria that were selected on the Add Factors tab. If the Service selection on the Add Factors tab is set to **All** and no Unit was selected, the Single Factor tab will default to the previously displayed Unit.

Modify Standard Factors

You can modify the non-zero factors on the Add Factors tab grid by right-clicking on the factor you want to change and choosing the **Modify** option on the shortcut menu shown in Figure 5-137.

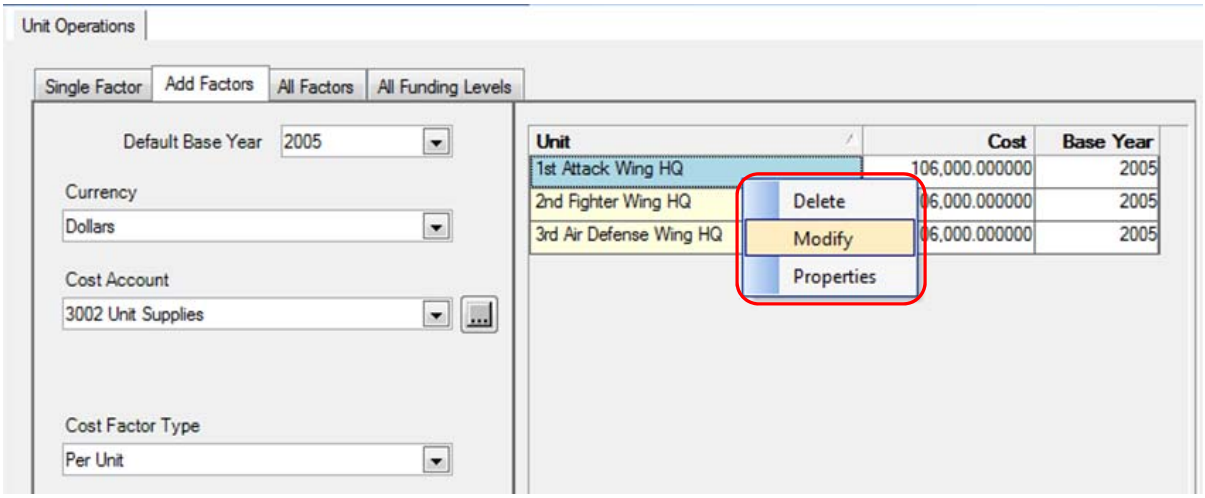


Figure 5-137. Modify Options on Shortcut Menu

When you select **Modify**, the Modify window (Figure 5-138) opens.

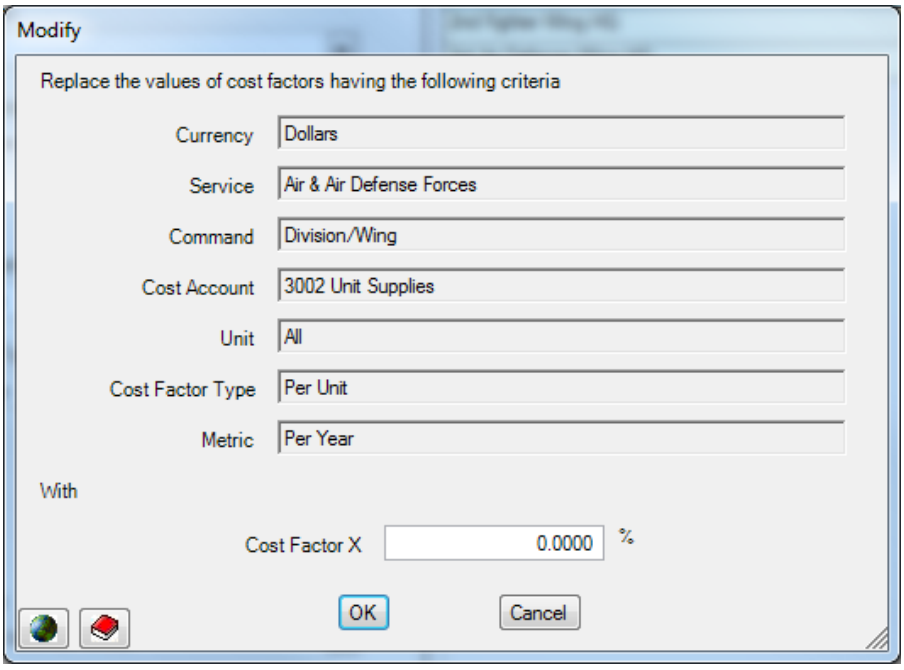


Figure 5-138. Modify Window

The Modify window shows the Currency, Service, Command (Level), Cost Account, Unit, Cost Factor Type, and Metric criteria that have been specified. Enter a non-zero percent value to change all matching cost factor values.

If you do not enter a percent value before you click **OK**, the message in Figure 5-139 is shown.

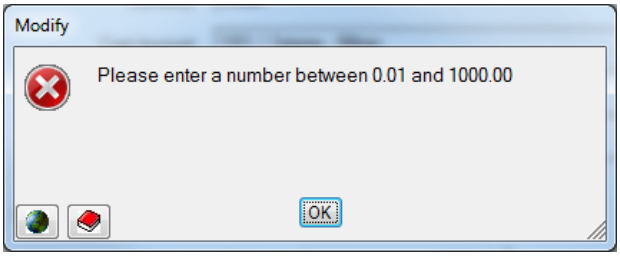


Figure 5-139. Error Message

Working with Unit Operations Annual Factors

A description of how to use the Annual Factors portion of any Operating Cost window is provided in the "Annual Factors and Funding Levels" section of this chapter on page 5-16. When the Funding Levels are changed for a Master Unit that has Dependent Units, the funding levels of the Dependent Units are also changed.

Working with the Unit All Factors and All Funding Levels Tabs

Descriptions of how to use the All Factors and All Funding Levels tabs are provided in the "Using the All Factors Tab" and "Using the All Funding Levels Tab" sections of this chapter. When the Funding Levels are changed for a Master Unit that has Dependent Units, the funding levels of the Dependent Units are also changed. To export data from these tabs, see the "Exporting Data from the All Factors Tab" and Exporting Data from the All Funding Levels Tab" sections.

Exporting Unit Operations Cost Data

To export Unit Operations cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. A more complete description and an example are shown in the "Exporting Cost Data" section of this chapter.

An example of the Excel file produced as a result of an export from the Single Factor tab is shown in Figure 5-140.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Classification: None														
2															
3	Ministry Of Defense														
4															
5		Unit	Cost Account	Cost Factor Type	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
6		Military Recruitment Center	3001 Unit Heat, Water, & Electricity	Per Unit	Per Year	80000	2005	100	100	100	100	100	100	100	100
7		Military Recruitment Center	3002 Unit Supplies	Per Unit	Per Year	200000	2005	100	100	100	100	100	100	100	100
8		Military Recruitment Center	3002 Unit Supplies	Per Person	Actual Active Personnel	20	2005	100	100	100	100	100	100	100	100
9		Military Recruitment Center	3003 Unit Building Maintenance	Per Unit	Per Year	135000	2005	100	100	100	100	100	100	100	100
10		Military Recruitment Center	3004 Unit Travel	Per Unit	Per Year	40000	2005	100	100	100	100	100	100	100	100
11		Ministry of Defense	3001 Unit Heat, Water, & Electricity	Per Unit	Per Year	888000	2005	100	100	100	100	100	100	100	100
12		Ministry of Defense	3002 Unit Supplies	Per Unit	Per Year	2220000	2005	100	100	100	100	100	100	100	100

Figure 5-140. Exported Unit Operations Single Factor Data (Excel Spreadsheet)

An example of the Excel file produced as a result of an export from the Add Factors tab is shown in Figure 5-141.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Classification: None														
2															
3	Air & Air Defense Forces														
4															
5		Unit	Cost Account	Cost Factor Type	Metric	Cost	Base Year	2006	2007	2008	2009	2010	2011	2012	2013
6		1st Attack Wing HQ	3002 Unit Supplies	Per Unit	Per Year	106000	2005	100	100	100	100	100	100	100	100
7		2nd Fighter Wing HQ	3002 Unit Supplies	Per Unit	Per Year	106000	2005	100	100	100	100	100	100	100	100
8		3rd Air Defense Wing HQ	3002 Unit Supplies	Per Unit	Per Year	106000	2005	100	100	100	100	100	100	100	100
9															

Figure 5-141. Exported Unit Operations Add Factors Data (Excel Spreadsheet)

Cost Calculations Using Unit Operations Cost Factors

FOCIS uses Unit Operations cost factors to calculate costs in the following ways. For all cost factors[7] with a Cost Factor Type of:

- **Per Unit**, the cost factor value is added to the cost results for all years that the Unit is in the force structure.
- **Unit Activity**, the cost factor value is multiplied by the year-by-year amounts of Unit Activity with the same Metric.
- **Per Person**, the cost factor value is multiplied by the number of Unit personnel of the type corresponding to the cost factor Metric.

The following example shows how FOCIS combines Unit data with the cost factors to estimate costs. To make the example easier to understand, the Funding Levels are all assumed to be 100%.

The Unit Data Work Area information for this example is shown in Figure 5-142.

[7] Cost factor values are always first inflated to the calculation Base Year.

13th Armored Brigade

Manpower

			2005	2006	2007	2008	2009	2010	2011	2012	2013
Land Forces	**Field Grade Officer (Act**	**Actual**	**7**	**6**	**6**	**6**	**6**	**7**	**7**	**7**	**7**
		Authorized		7	7	7	7	7	7	7	7
		%		*86*	*86*	*86*	*86*	*100*	*100*	*100*	*100*
Land Forces	**Company Grade Officer**	**Actual**	**75**	**60**	**60**	**60**	**60**	**68**	**68**	**68**	**68**
		Authorized		75	75	75	75	75	75	75	75
		%		*80*	*80*	*80*	*80*	*91*	*91*	*91*	*91*
Land Forces	**Enlisted (Active/Regular**	**Actual**	**50**	**40**	**40**	**40**	**40**	**45**	**45**	**45**	**45**
		Authorized		50	50	50	50	50	50	50	50
		%		*80*	*80*	*80*	*80*	*90*	*90*	*90*	*90*
Land Forces	**Conscript (Active/Regul**	**Actual**	**1,500**	**1,200**	**1,200**	**1,200**	**1,200**	**1,350**	**1,350**	**1,350**	**1,350**
		Authorized		1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
		%		*80*	*80*	*80*	*80*	*90*	*90*	*90*	*90*
Land Forces	**Conscript (Reserve/Reg**	**Actual**	**100**	**80**	**80**	**80**	**80**	**90**	**90**	**90**	**90**
		Authorized		100	100	100	100	100	100	100	100
		Training Days		5	5	5	5	5	5	5	5
		%		*80*	*80*	*80*	*80*	*90*	*90*	*90*	*90*

Equipment & Facilities

Equipment & Facilities Use

Unit Activity

			2005	2006	2007	2008	2009	2010	2011	2012	2013
Firing Exercises		**Actual**	**1**	**2**	**2**	**2**	**4**	**4**	**4**	**4**	**4**
		Desired		4	4	4	4	4	4	4	4
		%		*50*	*50*	*50*	*100*	*100*	*100*	*100*	*100*

Figure 5-142. Sample Unit Data Work Area Information

The total number of Active personnel is shown in the FOCIS report shown in Figure 5-143.

Unit Name	Personnel ...	Resource Label 1	2006	2007	2008	2009	2010	2011	2012	2013
13th Armored Brigade	Active	Field Grade Officer (Active/Avg Pay)	6	6	6	6	7	7	7	7
		Company Grade Officer (Active/Regular)	60	60	60	60	68	68	68	68
		Enlisted (Active/Regular)	40	40	40	40	45	45	45	45
		Conscript (Active/Regular)	1,200	1,200	1,200	1,200	1,350	1,350	1,350	1,350
	Active Total		1,306	1,306	1,306	1,306	1,470	1,470	1,470	1,470
	Reserve	Conscript (Reserve/Regular)	80	80	80	80	90	90	90	90
13th Armored Brigade Total			1,386	1,386	1,386	1,386	1,560	1,560	1,560	1,560

Figure 5-143. Sample Total Active Personnel Data

The cost results from the FOCIS calculation (in 2005 prices) are shown in Figure 5-144.

Constant price of 2005

Cost Label 1	Cost Label 2	Cost Area	Command Order	Unit Service

Amount | Year

Unit Name	Calculatio...	Cost Account	2006	2007	2008	2009	2010	2011	2012	2013
13th Armored Brigade	Fixed	3001 Unit Heat, Water, & Electricity	976,000	976,000	976,000	976,000	976,000	976,000	976,000	976,000
		3002 Unit Supplies	2,440,000	2,440,000	2,440,000	2,440,000	2,440,000	2,440,000	2,440,000	2,440,000
		3003 Unit Building Maintenance	1,647,000	1,647,000	1,647,000	1,647,000	1,647,000	1,647,000	1,647,000	1,647,000
		3004 Unit Travel	488,000	488,000	488,000	488,000	488,000	488,000	488,000	488,000
	Fixed Total		5,551,000	5,551,000	5,551,000	5,551,000	5,551,000	5,551,000	5,551,000	5,551,000
	Activity	3002 Unit Supplies	10,000	10,000	10,000	20,000	20,000	20,000	20,000	20,000
	Actual Active	3001 Unit Heat, Water, & Electricity	130,600	130,600	130,600	130,600	147,000	147,000	147,000	147,000
13th Armored Brigade Total			5,691,600	5,691,600	5,691,600	5,701,600	5,718,000	5,718,000	5,718,000	5,718,000

Figure 5-144. Sample Cost Result Data

There are two things worth noting before examining the cost calculation details. First, there are separate entries in the cost result for each of the six Unit Operations cost factors. Also, notice that there are entries for three different Calculation Methods. These correspond to the three Cost Factor Types used with the 13th Armored Brigade. (The **Fixed** Calculation Method in the report corresponds with **Per Unit** cost factors; **Activity** corresponds with **Unit Activity**, and **Actual Active** corresponds with the **Per Person/Actual Active Personnel** factor.)

Also note that, for simplicity in describing the calculation methods, the cost calculation was done in 2005 prices and all of the cost factors are in 2005 prices. Had any of the Base Years been different from the cost calculation Base Year, FOCIS would have adjusted the cost factor values.

The following paragraphs describe each of the calculations:

- **Per Unit** cost factors (Calculation Method = Fixed): There are four separate cost factors with the Cost Factor Type of Per Unit, "3001 Unit Heat, Water, & Electricity," "3002 Unit Supplies," "3003 Unit Building Maintenance," and "3004 Unit Travel." In each case, the cost each year is the same since the results are shown in 2005 prices. The entries match the cost factor values.
- **Unit Activity** cost factors (Calculation Method = Activity): The costs each year are equal to the number of Firing Exercises times 5,000; therefore, in 2006–2008, when there are 2 exercises per year, the cost result shows 10,000 and in 2009–2013, when the number of exercises per year increases to 4, the cost result is 20,000 for the Cost Account "3002 Unit Supplies."
- **Per Person/Actual Active Personnel** cost factors (Calculation Method = Actual Active): There is one cost factor of 100 per person that depends on the total number of Active personnel in the 13th Armored Brigade. The Manpower summary shows year-by-year totals of Active Personnel of 1,306 in 2006–2009 and 1,470 in 2010–2013. These totals caused the cost result to be 130,600 in 2006–2009 and 147,000 in 2010–2013.

Modifying the Unit Operations Cost Terminology

FOCIS allows you to modify some of the terminology used with Unit Operations costs. If you click the icon that opens the Translation window and select the Terminology tab, you can choose the "Cost Factors – Unit Operations – Factor Types" category to modify the Primary or Alternate terms used to describe the three Cost Factor Types (Figure 5-145).

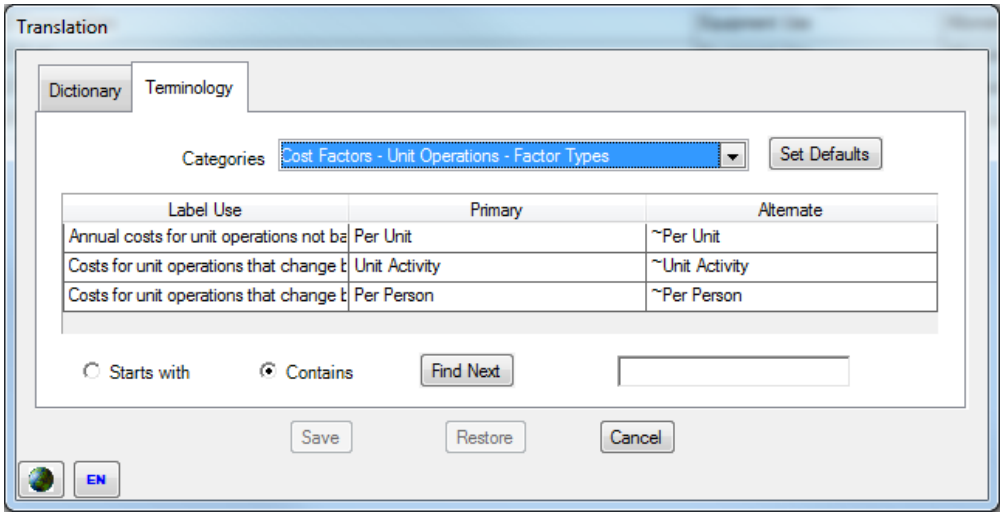


Figure 5-145. Terminology Tab (Unit Operations – Factor Types)

If you select the "Cost Factors – Unit Operations Metrics" category, you can modify the Primary or Alternate terms used to describe the Metrics display (Figure 5-146).

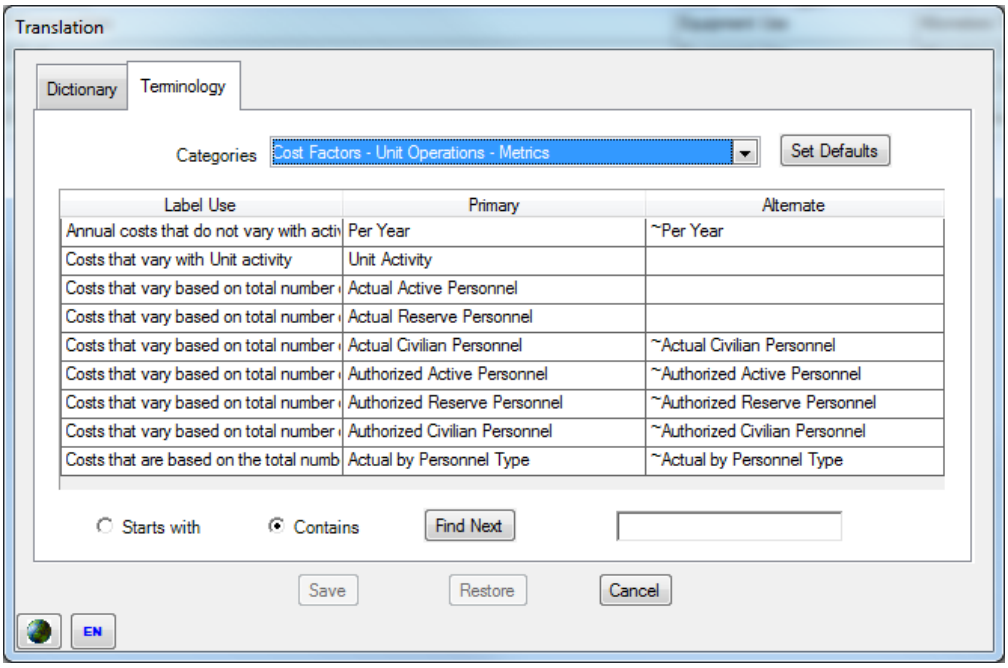


Figure 5-146. Terminology Tab (Unit Operations – Metrics)

Other window labels can be changed using the Dictionary tab of the Translation window.

Equipment Procurement Cost Data

This section describes Equipment Procurement costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Equipment Procurement costs, and describes how to use the Equipment Procurement cost data windows.

Equipment Procurement is one of two FOCIS cost modeling options that are intended to be used to represent investment costs. The other investment costs FOCIS uses is for the Procurement of War Reserves, which is described in the "War Reserve Material (WRM) Procurement Cost Data" section. Investment costs are different from operating costs in that they generally represent expenditures that provide value when the money is spent and for several years following.

FOCIS provides two different ways of representing Equipment Procurement costs:

- **Procurement Annual Factors.** The Factor method uses changes in Equipment inventories to determine if Equipment is being added to the inventory. Where there are increases in inventory, and procurement cost factors for that type of Equipment exist, costs are added to the budget. This method is useful for planning a modernization program before specific contracts have been negotiated for procurements.
- **Procurement Projects.** The Project method allows you to enter year-by-year cost and quantity information for a modernization program. Actual changes to the inventory are not considered under this method. This method is useful for two different situations. It can be used to include the costs of a procurement program once a specific contract has been negotiated. The other use is to include procurement costs for Equipment where the quantity to be purchased is not directly related to changes in the total inventory. For example, all militaries have trucks and other support vehicles that must be replaced as they wear out. In these cases, the inventories do not change year-to-year but new trucks need to be purchased from time to time.

In the "Budget Line Item Cost Data" section of this chapter, you will learn that the Budget Line Items window can be used to record any type of cost and therefore could be used to record Equipment Procurement costs. We recommend that, even though FOCIS has this capability, it will be easier to produce reports that clearly show the overall Equipment modernization program and its costs if all procurement costs are entered into FOCIS using one of the two Equipment Procurement options.

> **Important:**
>
> Using the two Equipment Procurement cost methods to represent all types of Equipment purchases will make it easier to show the total Equipment modernization program and its costs.

FOCIS recognizes that, in some situations, Equipment is transferred between Services or Agencies and this could make the results of using the Procurement Cost Annual Factors method erroneous, since it is based on increases in inventories by Service or Agency.

The Equipment Procurement window provides a separate tab that shows the actual Equipment inventory totals by Service and allows you to record inter-Service Equipment transfers. These data are used as part of the cost calculation to correct the initial calculation of year-to-year inventory changes.

> **Note for Former DRMM Users:**
>
> DRMM calculations of Equipment Procurement costs interrupted the calculation process to gather information on Equipment transfers among Services and Agencies. FOCIS instead makes a separate tab available at all times to provide these data, and the cost calculation does not stop to ask for these data or to confirm prior entries.

Equipment Procurement Cost Drivers and Cost Factors

When procurement cost factors (Factor method) exist for an Equipment Item, FOCIS uses the cost factors along with Actual Equipment inventory data to estimate procurement costs. The cost driver for Equipment Procurement is the change in Actual Equipment inventories summed by Service for each year, adjusted for transfers between Services. This approach automatically ignores all transfers of Equipment between Units in the same Service.

Because the cost driver for Equipment Procurement costs based on the Factor method is the Service-wide change in inventory, and FOCIS associates all costs with some Unit, FOCIS uses the highest Unit in each Service as the budgeting Unit for these costs.

Equipment Procurement cost factors based on the Factor method have four characteristics, listed in Table 5-9:

Table 5-9. Equipment Procurement Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Equipment Item (e.g., Sedan)
Cost Factor Characteristics	• Cost Factor Type (i.e., Factor)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

When the Procurement Project method is used, FOCIS does not use any cost driver information and simply uses the year-by-year procurement cost data.

Equipment Procurement Project cost factors have five characteristics, listed in Table 5-10.

Table 5-10. Equipment Procurement Project Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• Equipment Item (e.g., Sedan) • Sponsoring Unit (e.g., Land Forces Headquarters)
Cost Factor Characteristics	• Cost Factor Type (i.e., Cost Factor, Project)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

Using the Equipment Procurement Cost Data Window

The Equipment Procurement cost data window provides tools you can use to create, review, and modify Equipment Procurement cost factors and project information. The window has three tabs with complementary functions, as shown in Figure 5-147.

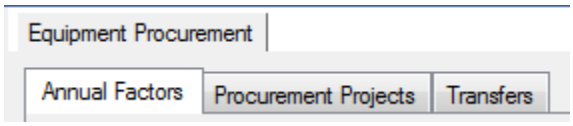


Figure 5-147. Three Tabs on Equipment Procurement Cost Data Window

- Annual Factors – the location for creating and working with procurement costs based on increases in Equipment inventories
- Procurement Projects – the location for working with Equipment Procurement Projects
- Transfers – the location for recording planned transfers of Equipment Items between Services or Agencies

Annual Factors Tab

The Annual Factors tab (Figure 5-148) provides capabilities for working with cost data for one or more Equipment Items at a time. Using this tab, you can do the following:

- View existing cost factors
- Edit cost factor values and Base Years
- Add new cost factors
- Transfer cost factors
- Delete existing cost factors

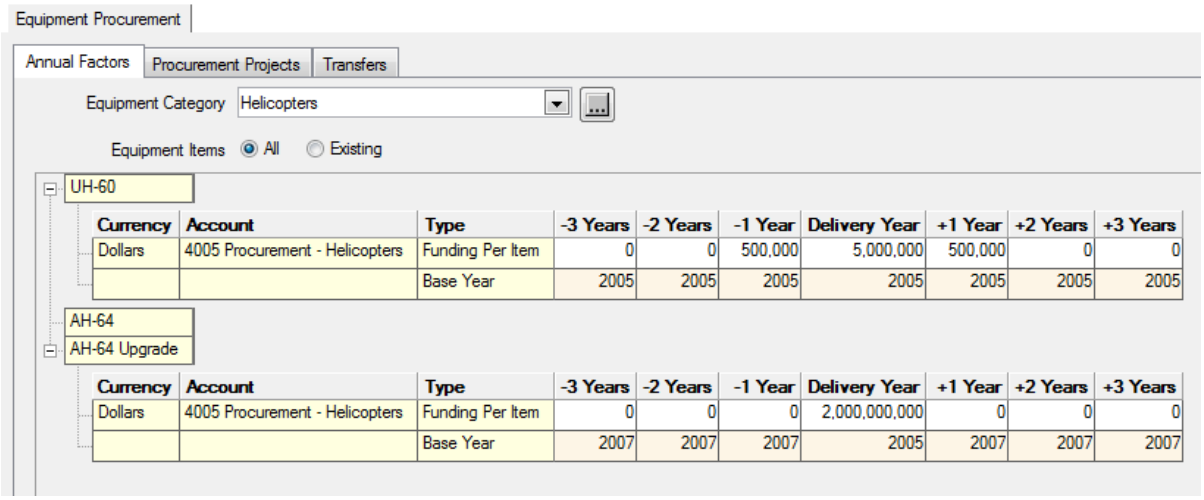


Figure 5-148. Annual Factors Tab

When you select an Equipment Category in the top portion of the window, separate entries are displayed for every Equipment Item in that category. Cost factors are entered for Cost Accounts in a manner that allows costs to be entered in any combination of years prior to, following, or in the year of delivery.

The example of the UH-60 in Figure 5-148 is set up so that in the year prior to delivery (the year the inventory increases), $500,000 will be added to the budget for each UH-60 added to the inventory in the following year. In the year of delivery, $5,000,000 will be added, and in the year following delivery, $500,000 will again be added for each UH-60 added.

Select an Equipment Item

To add Annual Procurement cost factors to an Equipment Item, you first select an Equipment Category. If the Equipment Items display control (Figure 5-149) is set to **All**, then all Equipment Items in that Category are shown. If it is set to **Existing**, only Equipment Items that have Annual Procurement cost factors are shown.

Figure 5-149. Equipment Items Display Control

Add an Annual Factor

To add a cost factor for an Equipment Item, right-click on the Equipment name or anywhere in the grid with its existing cost factors and then choose **Add** from the shortcut menu. The Add window (Figure 5-150) will open.

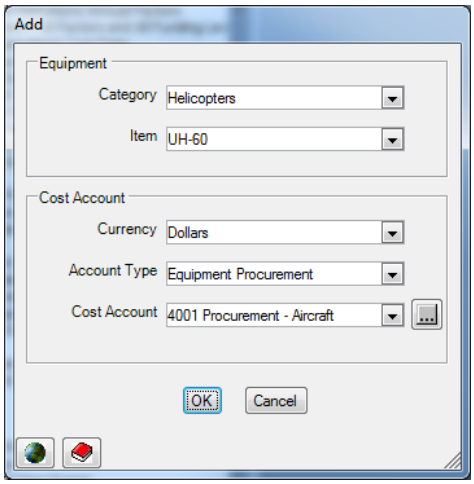


Figure 5-150. Add Cost Factor Window (Equipment Procurement)

Notice that you will select a Currency in the Add window. Make sure the correct Currency is showing before you click **OK**.

If Cost Accounts that have been set for use with Equipment Procurement costs (using the Cost Account Setup window) have not yet been used for the currently selected Equipment Item, the unused Cost Accounts will appear in the list of Cost Accounts. If you do not see the Cost Account you want to use, use the Account Type selector to either choose **All** or one of the other Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Equipment Procurement costs. You can also use the icon to open the Cost Account Setup window to add a new Cost Account if desired.

After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Equipment Procurement Cost window, where you will enter a cost value and Base Year.

Transfer Annual Factor

Sometimes data are accidentally entered for the wrong combination of Equipment Item, Currency, and Cost Account. FOCIS allows you to transfer the cost and Base Year to any other combination of Equipment Item, Currency, and Cost Account as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of a Transfer window is shown in Figure 5-151.

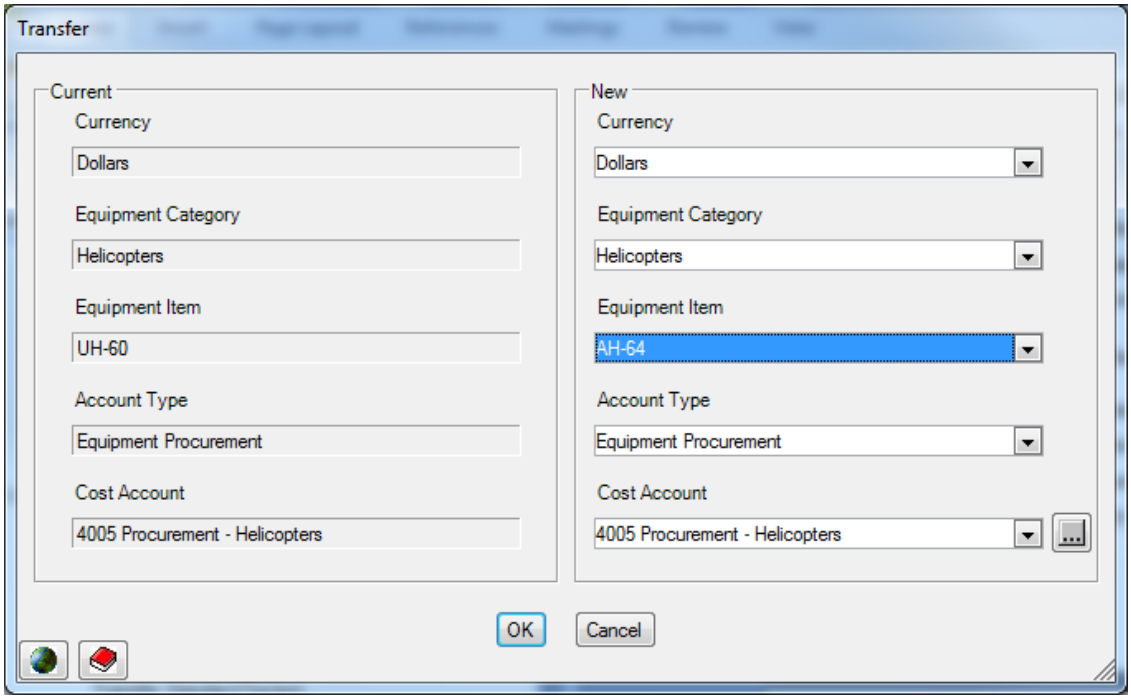


Figure 5-151. Transfer Window

Procurement Projects Tab

The Procurement Projects tab allows you to enter Equipment Procurement plans with Purchase Quantities (Ordered and Delivered) and costs for any Equipment Item. Each Procurement Project is identified by the Equipment Item and a budgeting Unit. More than one Equipment Procurement project can be created for the same Equipment Item, with each having a different budgeting Unit. An example of a Procurement Projects tab is shown in Figure 5-152.

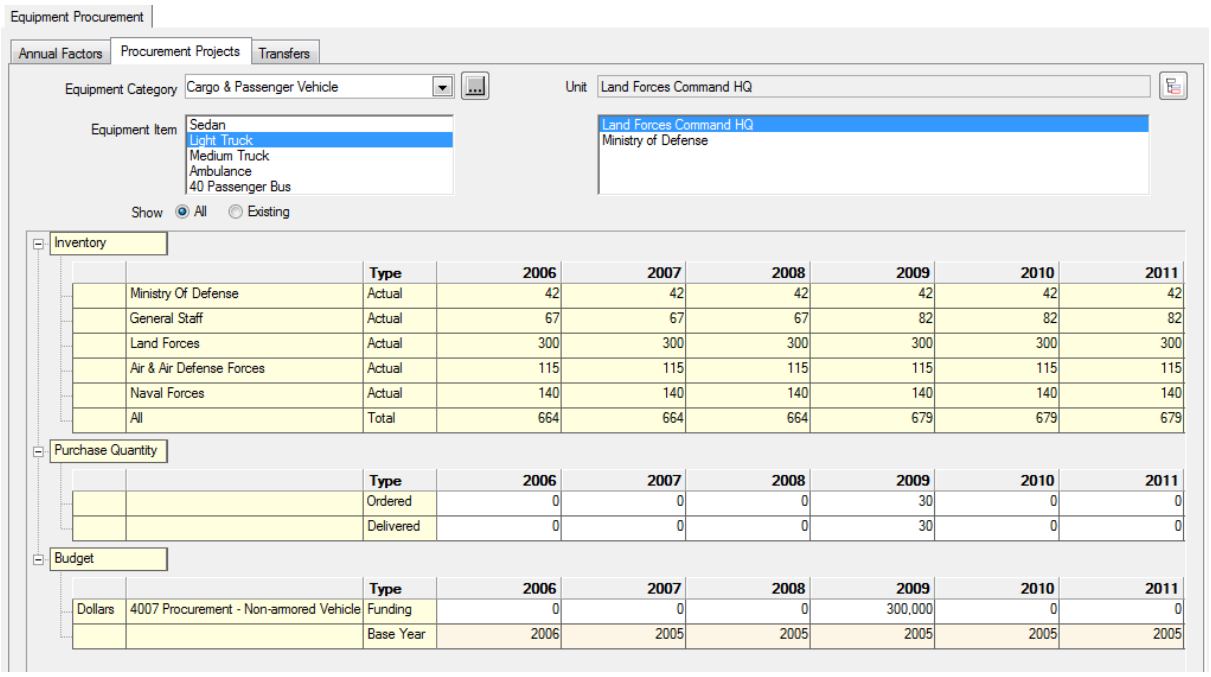


Figure 5-152. Procurement Projects Tab

To aid in preparing project details, the Actual inventories of the selected Equipment Item are shown by Service and Agency.

Add Purchase Quantities

You can add Purchase Quantities in any year. FOCIS does not enforce any logic that links the Ordered and Delivered quantities or that links either of these to the budget data. You can enter any number greater than zero in any cell. Click the **Save** button to save the data.

Purchase Quantity information is used primarily to document the intent of the project and allow review of the reasonableness of the budget information.

Add Budget Data

To add the cost of a Procurement Project, right-click in the portion of the grid labeled **Budget** and then choose **Add** from the shortcut menu. The Add window (Figure 5-153) will open.

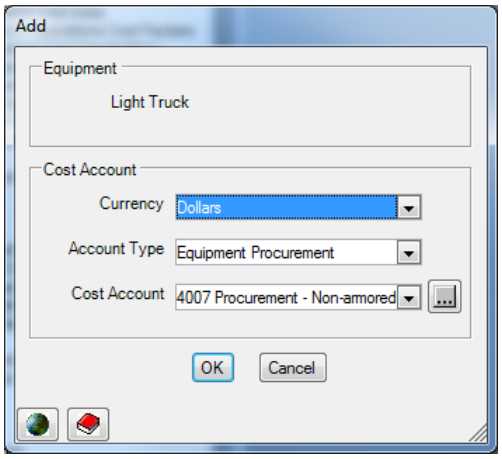


Figure 5-153. Add Window (Equipment Procurement)

Notice that you will select a Currency in the Add window. Make sure the correct Currency is showing before you click **OK**.

If Cost Accounts that have been set for use with Equipment Procurement costs (using the Cost Account Setup window) have not yet been used for the currently selected Equipment Item, the unused Cost Accounts will appear in the list of Cost Accounts. If you do not see the Cost Account you want to use, use the Account Type selector to either choose **All** or one of the other Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Equipment Procurement costs. You can also use the icon to open the Cost Account Setup window to add a new Cost Account if desired.

After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Equipment Procurement Cost window, where you will enter a cost value and Base Year.

Transfer Budget Data

Sometimes data are accidentally entered for the wrong combination of Equipment Item, Unit, Currency, and Cost Account. FOCIS allows you to transfer the information to any other combination of Equipment Item, Unit, Currency, and Cost Account as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of the Transfer window is shown in Figure 5-154.

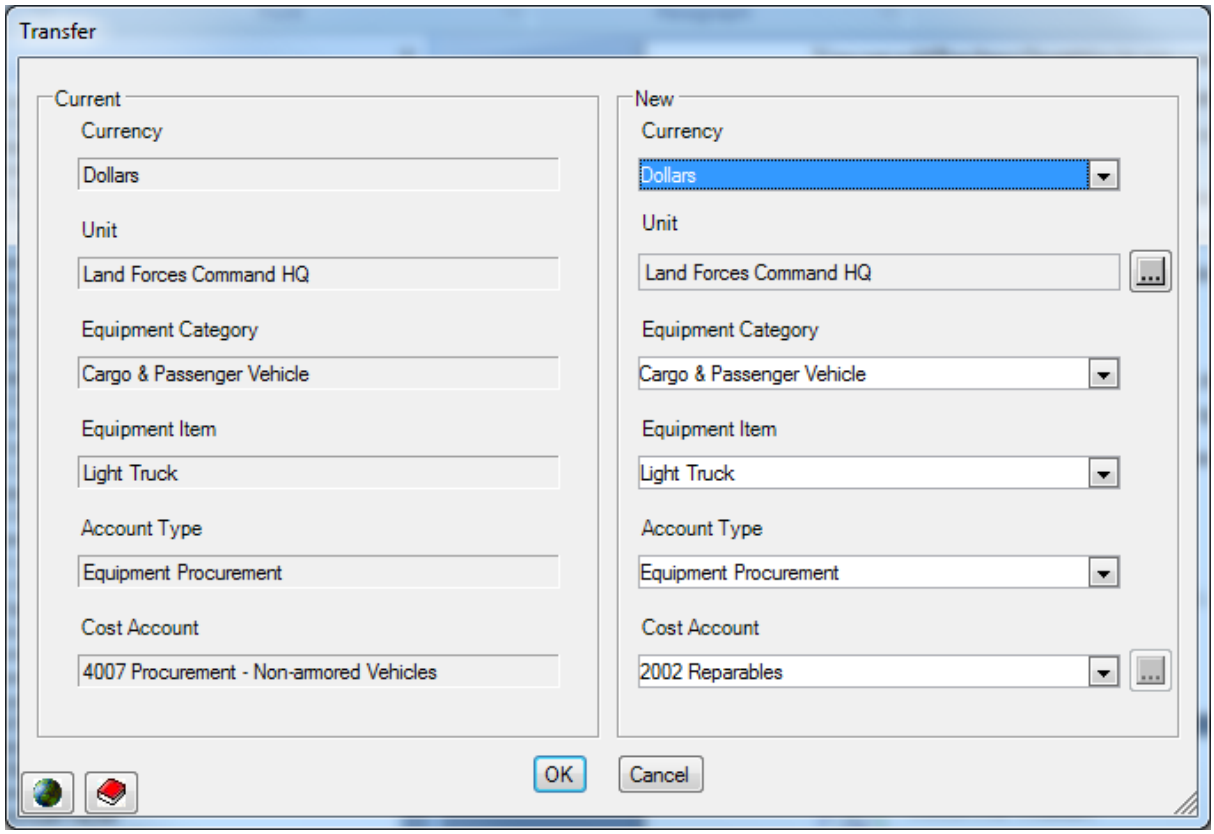
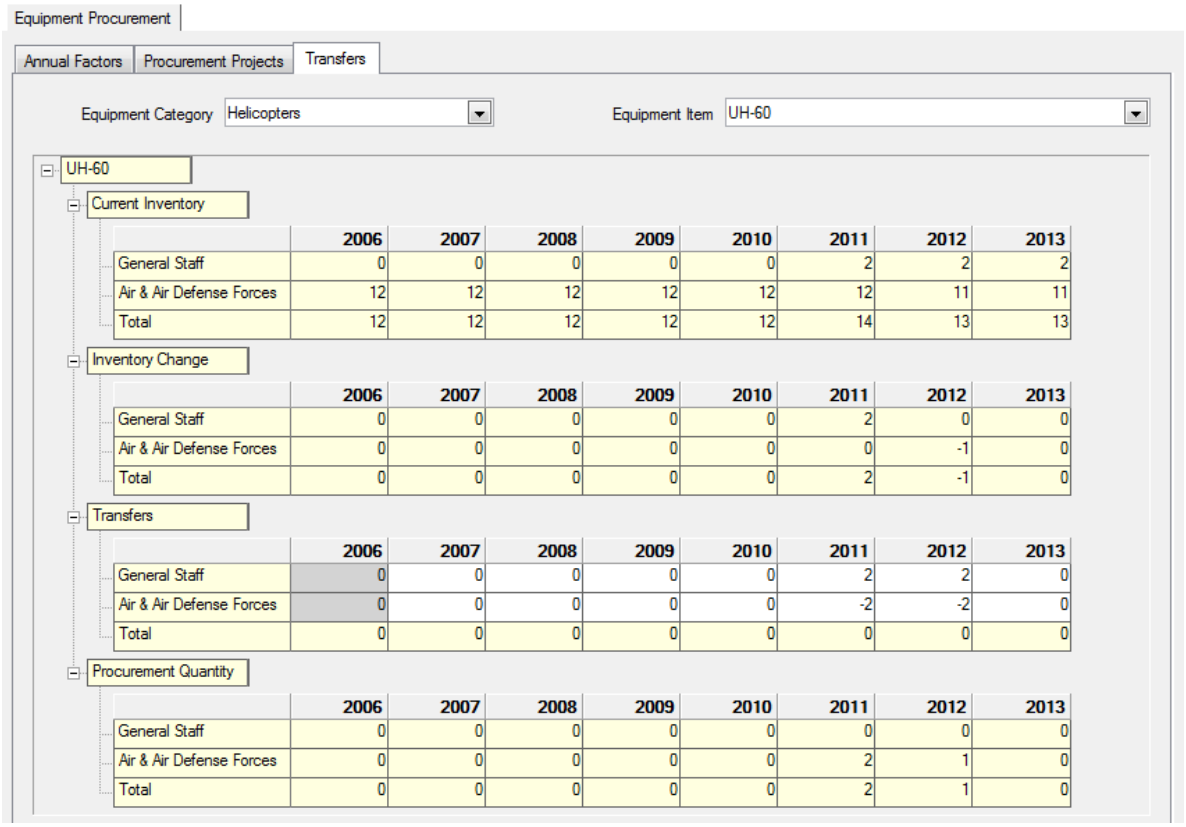


Figure 5-154. Transfer Window

Transfers Tab

The Transfers tab (Figure 5-155) displays inventory and transfer data for any Equipment Item that has Annual Factors and has equipment recorded in Unit inventories.



	2006	2007	2008	2009	2010	2011	2012	2013
Current Inventory								
General Staff	0	0	0	0	0	2	2	2
Air & Air Defense Forces	12	12	12	12	12	12	11	11
Total	12	12	12	12	12	14	13	13
Inventory Change								
General Staff	0	0	0	0	0	2	0	0
Air & Air Defense Forces	0	0	0	0	0	0	-1	0
Total	0	0	0	0	0	2	-1	0
Transfers								
General Staff	0	0	0	0	0	2	2	0
Air & Air Defense Forces	0	0	0	0	0	-2	-2	0
Total	0	0	0	0	0	0	0	0
Procurement Quantity								
General Staff	0	0	0	0	0	0	0	0
Air & Air Defense Forces	0	0	0	0	0	2	1	0
Total	0	0	0	0	0	2	1	0

Figure 5-155. Equipment Procurement Window (Transfers Tab)

This tab shows the total number of UH-60s by Service, the transfer of 2 (two) helicopters to the General Staff from the Air & Air Defense Forces in 2011 and 2012, and the Procurement Quantity FOCIS will use to calculate procurement costs (i.e., deliveries of 2 (two) in 2011 and 1 (one) in 2012 in the Air & Air Defense Forces).

The Transfer tab shows Actual inventories in the Current Inventory section by Service or Agency and calculates the annual change in Actual quantities in the Inventory Change section. You enter planned transfers in the Transfers section**.** The actual quantities that will be procured when the cost calculation is run appear in the Procurement Quantity section. When you add information on Transfers, FOCIS shows their effect on the net Procurement Quantity by Service. Note that since the Air & Air Defense Forces inventory in Figure 5-155 did not change in 2011, FOCIS calculated that 2 (two) UH-60s must be procured in 2011.

You can enter data only in the Transfer portion of the display (notice that all other areas have a different background color). You should enter a negative number to show the quantity being transferred from a Service and a positive number for the quantity being received by a Service. The **Save** button will not be enabled until the Total Transfer line is zero for all years. (**Note:** you will have to move the cursor from a cell for its effect on the Total line to be displayed.)

There are no right-click menu options on this window.

Exporting Equipment Procurement Cost Data

To export Equipment Procurement cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. When the Annual Factors tab is displayed, FOCIS will export all cost data based on Annual Factors to an Excel spreadsheet. When the Procurement Projects tab is displayed, FOCIS will export all cost data based on Procurement Projects to an Excel spreadsheet. The default filename of the spreadsheet file will include the words "Annual Factors" or "Procurement Projects," as appropriate. The default filename can be modified as desired. Figure 5-156 shows an example of an exported cost data report.

	A	B	C	D	E	F	G	H	I	J	K
1	Classification: None										
2											
3	APCs/AIFVs	BTR-80									
4											
5		Currency	Account	Type	-3 Years	-2 Years	-1 Year	Delivery Year	+1 Year	+2 Years	+3 Years
6		Dollars	4002 Procurement - Armored Vehicles	Funding Per Item	0	0	0	2000000	0	0	0
7				Base Year	2010	2010	2010	2005	2010	2010	2010
8											
9	Combat Aircraft	F-15 Upgrade									
10											
11		Currency	Account	Type	-3 Years	-2 Years	-1 Year	Delivery Year	+1 Year	+2 Years	+3 Years
12		Dollars	4001 Procurement - Aircraft	Funding Per Item	0	0	0	7000000	0	0	0
13				Base Year	2010	2010	2010	2005	2010	2010	2010

Figure 5-156. Sample Exported Annual Factors Data (Excel Spreadsheet)

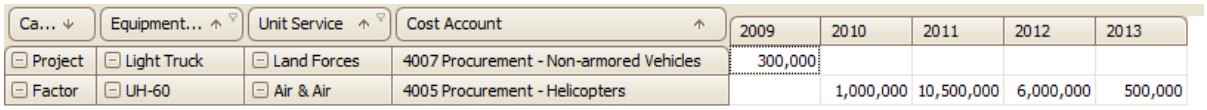
Cost Calculations Using Equipment Procurement Cost Factors

FOCIS uses the Annual Factors and Procurement Projects data to calculate costs in the following ways:

- Annual Factors: The increase in Actual inventory, net of any transfers, by Service, is multiplied by the Annual Factor for each Relative Year, and added to the estimated cost in the year of the net inventory increase adjusted for the Relative Year. (The Relative Year is a positive, negative, or zero value integer.)
- Procurement Projects: Annual budgets are added to the cost estimate in the years for which costs are entered.

FOCIS allows you to represent Equipment Procurement costs based on Annual Factors that may be incurred in more than one year. For example, it may be normal practice for some types of Equipment purchases to pay the supplier 15% of the total cost a year before delivery of the item, 80% upon delivery, and to hold 5% for one year after delivery to ensure all spare parts are delivered. FOCIS allows you to represent cost factors in ways that match almost any payment schedule.

Figure 5-157 shows how FOCIS combines the two types of Equipment Procurement methods to estimate costs for the Light Truck Procurement Project (Example #1) and UH-60 Annual Factors (Example #2). To make the example easier to understand, the Funding Levels are all assumed to be 100%.



Ca...	Equipment...	Unit Service	Cost Account	2009	2010	2011	2012	2013
Project	Light Truck	Land Forces	4007 Procurement - Non-armored Vehicles	300,000				
Factor	UH-60	Air & Air	4005 Procurement - Helicopters		1,000,000	10,500,000	6,000,000	500,000

Figure 5-157. Cost Results from the FOCIS Calculation (in 2005 Prices)

- Example #1: Light Truck Procurement Project: The procurement of Light Trucks for the Land Forces HQ was entered as $300,000 in 2009. This matches the data shown in Figure 5-157.

- Example #2: UH-60 Annual Factors: The net inventory increase is **2** in 2011 (**2** were purchased by the Air & Air Defense Service) and **1** in 2012. Cost factors exist that place costs in the year prior to each increase, the year of the increase, and the year after the increase (see data in Table 5-11).

Table 5-11. UH-60 Annual Factors

		2010	2011	2012	2013	2010 - 2013
Inventory Increase			2	1		3
Factor For:	Factor					
-1 Year	500,000	1,000,000	500,000			1,500,000
Year of Delivery	5,000,000		10,000,000	5,000,000		15,000,000
+1 Year	500,000			1,000,000	500,000	1,500,000
Total		1,000,000	10,500,000	6,000,000	500,000	18,000,000

War Reserve Material (WRM) Procurement Cost Data

This section describes WRM Procurement costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling WRM Procurement costs, and describes how to use the WRM Procurement cost data windows.

WRM Procurement is one of two FOCIS cost modeling options that are intended to be used to represent investment costs. The other option dedicated to investment costs is the Equipment Procurement window, which is described in the "Equipment Procurement Cost Data" section. Investment costs are different from operating costs in that they generally represent expenditures that provide value when the money is spent and for several years following.

Using WRM Procurement Cost Data

Armies, Navies, and Air Forces can consume large quantities of fuel, ammunition, and other supplies in a very short time when required to engage an enemy force or respond to other

emergencies. The size of resource stockpiles is often an important planning consideration and FOCIS records WRM quantities as part of the Unit Resource data.

If WRM Procurement costs exist for resources included in Unit war reserve inventories, FOCIS calculates their costs by calculating any year-to-year changes in inventories (by Service) and adding costs when they increase. FOCIS also allows you to note transfers of WRM between Services, and these are used when calculating the net year-to-year changes.

> **Note for Former DRMM Users:**
>
> DRMM calculations of WRM Procurement costs interrupted the calculation process to gather information on WRM transfers among Services and Agencies. FOCIS instead makes a separate tab available at all times to provide these data, and the cost calculation does not stop to ask for these data or to confirm prior entries.

FOCIS treats purchases of material that support operations and training in the year they are purchased as Operating Costs (e.g., Personnel, Equipment Operations or Overhauls, or Unit Operations costs). Material purchased for storage to support operations during an emergency or crisis situation is represented as a WRM Procurement.

Using WRM Stockpiles to Support Peacetime Operations

War Reserve Materials are identical to the materials used for peacetime operations. Sometimes these stockpiles are used to support current operations rather than purchase additional material. This may happen because there are excess stockpiles due to force reductions or planned Equipment phase-outs. Other times this can occur because there is not enough money to fund purchases of adequate material for peacetime operations.

When this happens, it is important to properly represent the implications of using stockpiles in lieu of purchasing material for use in normal operations or training. The preferred method for representing a planned use of WRM to support non-emergency operations or training is to do the following:

- Decrease WRM inventories in Units to reflect the likely use. (Note: this is easy to do using the Single Resource Display mode of the Unit Data Work Area.)
- Add a Budget Line Item with a negative cost that reflects the value of the material that is going to be removed from the WRM stockpile.

Using this method, the cost calculation will place the costs of all material used for that year's operations in the Units that use the material as a normal consequence of calculating Equipment and Unit operating costs. Furthermore, the WRM inventory will correctly reflect the drawdown in stockpile levels. Finally, the overall budget requirement for that year will be correct because the costs that appear in Unit Operations for individual Units will be offset by the negative Budget Line Item entry.

Important:

If WRM stockpiles are going to be used to support operations or training and this will result in reduced levels set aside for emergencies, the WRM quantities should be reduced to reflect the anticipated drawdown.

WRM Procurement Cost Drivers and Cost Factors

When Procurement cost factors exist for WRM items, FOCIS uses those cost factors and WRM Actual inventory data to estimate WRM Procurement costs. The cost driver for WRM Procurement cost is the change in Actual WRM inventories summed by Service for each year, adjusted for transfers between Services. This approach automatically ignores all transfers of WRM inventories between Units in the same Service. (**Note:** Since there is only one type of cost factor, the FOCIS WRM Procurement cost window does not refer to a Cost Factor Type.)

Because the cost driver for WRM Procurement is the Service-wide change in inventory and FOCIS associates all costs with some Unit, FOCIS uses the highest Unit in each Service as the Budgeting Unit for WRM Procurement costs.

WRM Procurement cost factors have three characteristics, listed in Table 5-12.

Table 5-12. WRM Procurement Cost Factor Characteristics

Category	Characteristic
Cost Driver Characteristics	• WRM Item (e.g., Aviation Fuel)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Fuel)

The FOCIS WRM Procurement cost window is shown in Figure 5-158. Entries are shown by WRM Category for all WRM Items that have been created. Cost factors are entered for each item as a combination of a Currency and a Cost Account. The cost is based on the "Cost Per" Metric shown with each WRM Item. This Metric is assigned to the WRM Item in the WRM Setup window described in Chapter 2 of this manual. The Aviation Fuel example in Figure 5-158 shows a cost of $1.00 per gallon in 2005 prices.

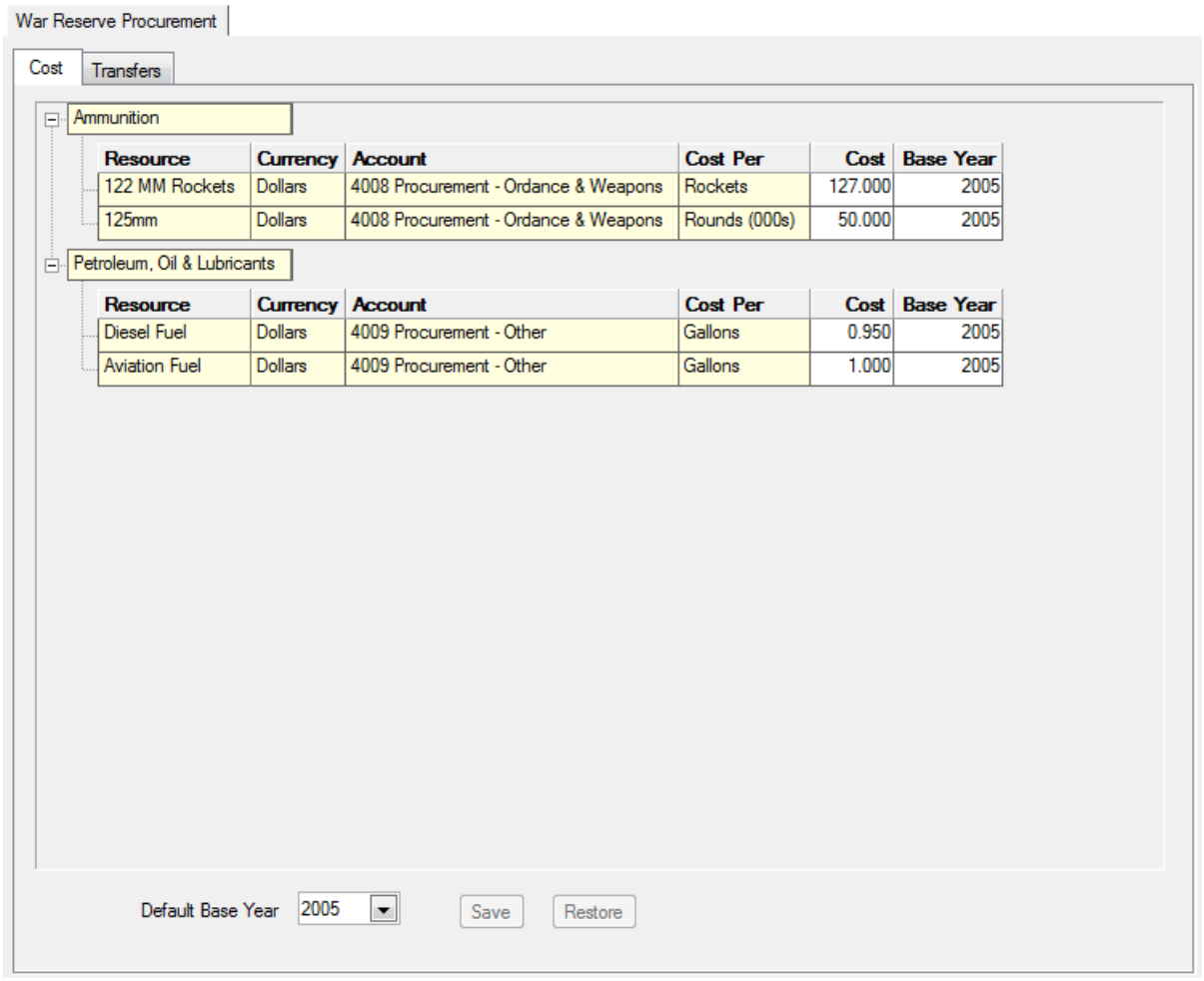
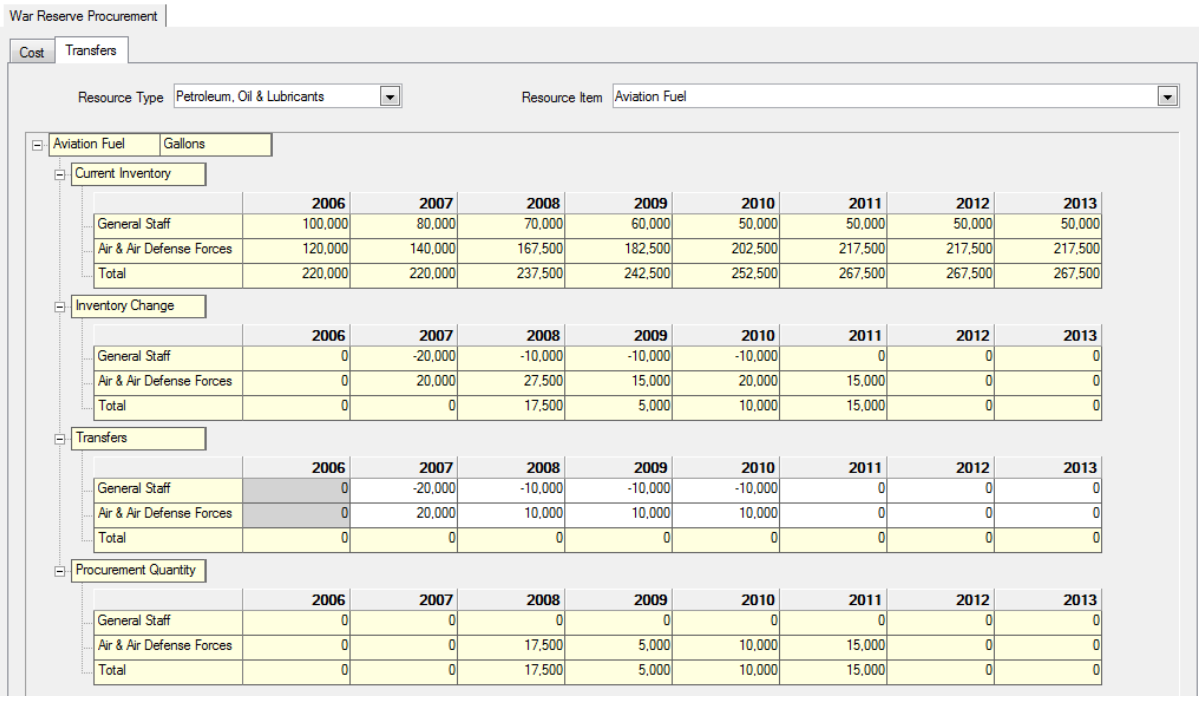


Figure 5-158. WRM Procurement Cost Window (Cost Tab)

The WRM Transfers tab can be used for any WRM Item for which there is a cost factor and inventory data exist in some Unit. (If both of these conditions are not met, FOCIS will not include that WRM Item in the list of Resource Items.)



	2006	2007	2008	2009	2010	2011	2012	2013
General Staff	100,000	80,000	70,000	60,000	50,000	50,000	50,000	50,000
Air & Air Defense Forces	120,000	140,000	167,500	182,500	202,500	217,500	217,500	217,500
Total	220,000	220,000	237,500	242,500	252,500	267,500	267,500	267,500

	2006	2007	2008	2009	2010	2011	2012	2013
General Staff	0	-20,000	-10,000	-10,000	-10,000	0	0	0
Air & Air Defense Forces	0	20,000	27,500	15,000	20,000	15,000	0	0
Total	0	0	17,500	5,000	10,000	15,000	0	0

	2006	2007	2008	2009	2010	2011	2012	2013
General Staff	0	-20,000	-10,000	-10,000	-10,000	0	0	0
Air & Air Defense Forces	0	20,000	10,000	10,000	10,000	0	0	0
Total	0	0	0	0	0	0	0	0

	2006	2007	2008	2009	2010	2011	2012	2013
General Staff	0	0	0	0	0	0	0	0
Air & Air Defense Forces	0	0	17,500	5,000	10,000	15,000	0	0
Total	0	0	17,500	5,000	10,000	15,000	0	0

Figure 5-159. WRM Procurement Cost Window (Transfers Tab)

Figure 5-159 shows the total amount of Aviation Fuel by Service, and the transfer of fuel from the General Staff to the Air & Air Defense Forces in 2007 through 2010. If these transfers had not been recorded, the Air & Air Defense Forces procurement quantities would have been 10,000 gallons higher in each of those years.

Using the WRM Procurement Cost Data Window

The WRM cost data window provides tools you can use to create, review, and modify WRM Procurement cost factors. The window has one tab where you can work with cost factors and a second tab for inventory transfers, as shown in Figure 5-160.

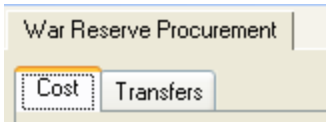


Figure 5-160. Two Tabs on WRM Procurement Cost Data Window

- Cost – the location for working with WRM Procurement costs based on increases in WRM inventories.
- Transfers – the location for recording planned transfers of WRM Items between Services or Agencies

Cost Tab

The WRM Cost tab (Figure 5-161) provides capabilities for working with cost data for any WRM Item. The tab allows you to do the following with regard to WRM Procurement cost factors:

- View existing cost factors
- Edit cost factor values and Base Years
- Add new cost factors
- Transfer cost factors
- Delete existing cost factors

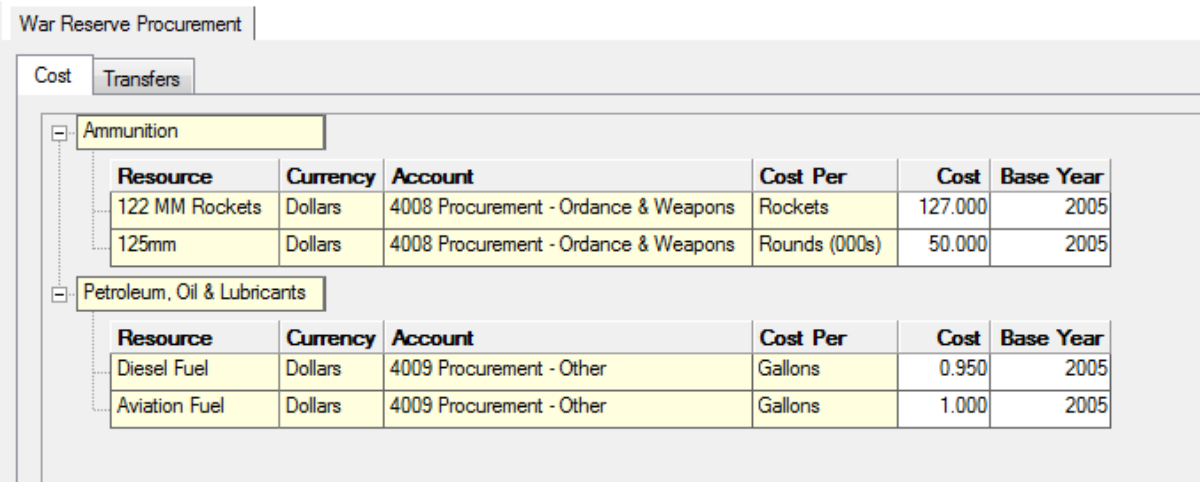


Figure 5-161. War Reserve Procurement Window (Cost Tab)

This tab has an entry for every WRM Category and displays cost factors for WRM Items for which cost factors exist. If there are WRM Items for which no cost factors have been created, they are not shown until cost factors have been added using the **Add** function described next.

Add a WRM Item

To add a Procurement cost factor for a WRM Item, right-click on the WRM Category and select the **Add** function from the shortcut menu. The window shown in Figure 5-162 will open with the WRM Category (or Type) set to the one your mouse was pointing to when you clicked the right button. You can select a different Category if necessary to add the WRM Item you want.

Note: You will select a Currency in this window. Make sure the correct Currency is displayed before you click **OK**.

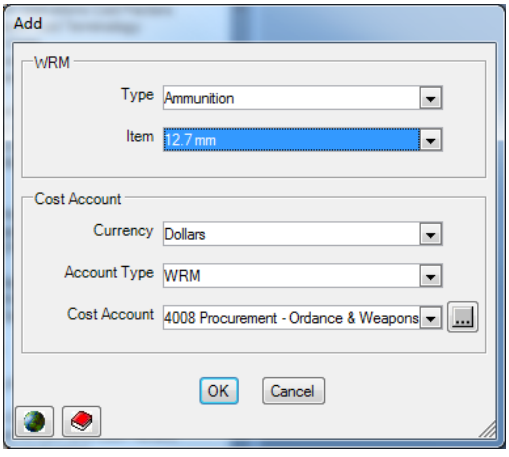


Figure 5-162. Add Window (WRM)

If you do not see the Cost Account you want to use in the Cost Account selector, use the Account Type selector to either choose **All** or one of the other Account Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with WRM Procurement costs. You can also use the icon to open the Cost Account Setup window to add a new Cost Account if desired. You may use more than one Cost Account with any WRM Item if that is appropriate.

After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main WRM Cost window, where you will enter a cost value and Base Year.

Cost factor values can be revised by clicking in the cell with the value you want to change and entering a new value. Click the **Save** button to make any change in cost permanent.

Transfer a Cost Factor

Sometimes data are accidentally entered for the wrong combination of WRM Item, Currency, and Cost Account. FOCIS allows you to transfer the cost and Base Year to any other combination of WRM Item, Currency, and Cost Account as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of the Transfer window is shown in Figure 5-163.

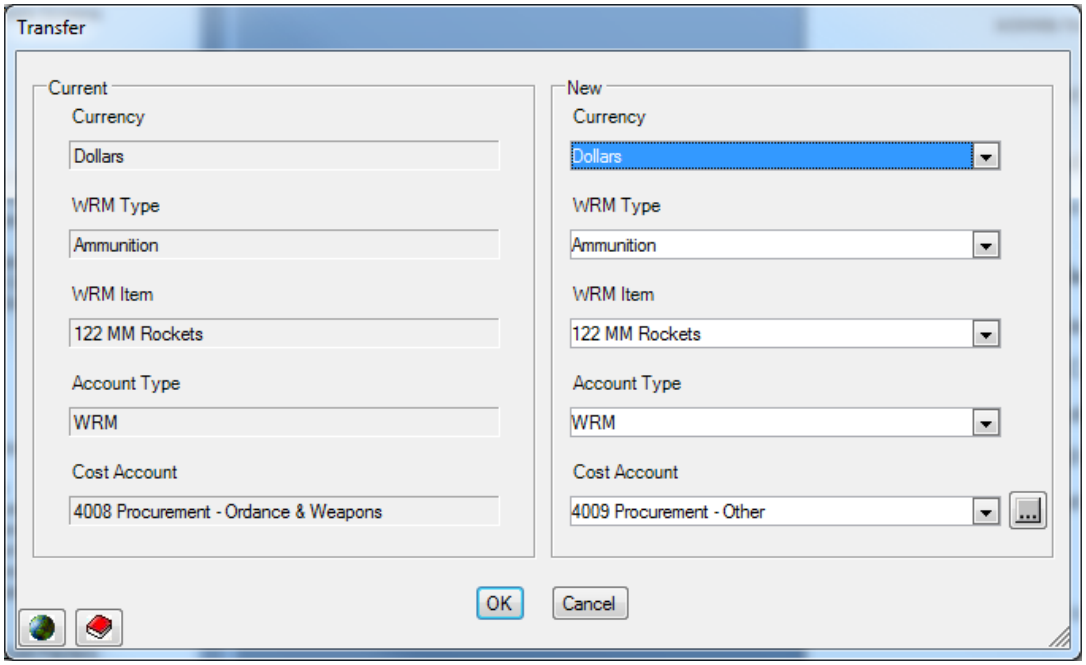


Figure 5-163. Transfer Window

Transfers Tab

The Transfers tab (Figure 5-164) displays inventory and transfer data for any WRM Item that has Annual Factors and has WRM recorded in Unit inventories.

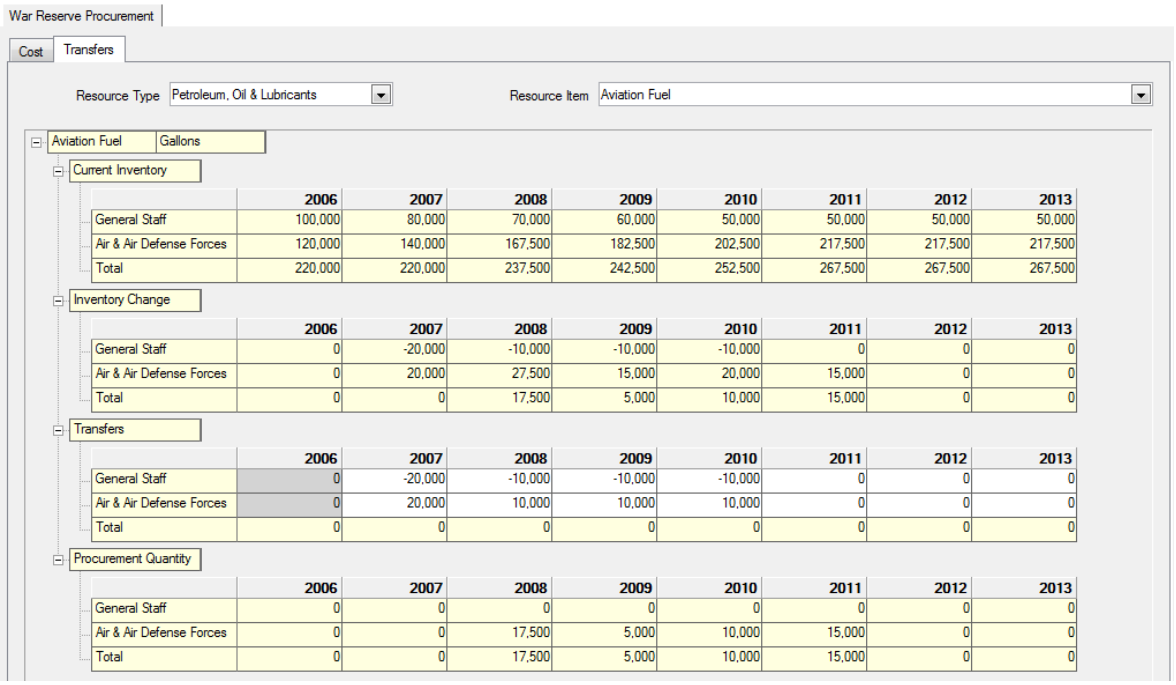


Figure 5-164. War Reserve Procurement Window (Transfers Tab)

This tab shows Actual inventories in the Current Inventory section by Service or Agency and calculates the annual change in Actual quantities in the Inventory Change section. You enter planned transfers in the Transfers section**.** The actual quantities that will be procured when the cost calculation is run appear in the Procurement Quantity section. When you add information on Transfers, FOCIS shows their effect on the net Procurement Quantity by Service.

You can enter data only in the Transfer portion of the display (notice that all other areas have a different background color). You should enter a negative number to show the quantity being transferred from a Service and a positive number for the quantity being received by a Service. The **Save** button will not be enabled until the Total Transfer line is zero for all years. (**Note:** you will have to move the cursor from a cell for its effect on the Total line to be displayed.)

Exporting WRM Procurement Cost Data

To export all costs that have been entered for this category of WRM Procurement to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. The default spreadsheet filename will include the words “Annual Factors,” but can be modified as desired. Figure 5-165 shows an example of an exported cost data report.

	A	B	C	D	E	F	G
1	Classification: None						
2							
3	Ammunition						
4							
5		Resource	Currency	Account	Cost Per	Cost	Base Year
6		122 MM Rockets	Dollars	4008 Procurement - Ordance & Weapons	Rockets	127	2005
7		125mm	Dollars	4008 Procurement - Ordance & Weapons	Rounds (000s)	50	2005
8							
9	Petroleum, Oil & Lubricants						
10							
11		Resource	Currency	Account	Cost Per	Cost	Base Year
12		Diesel Fuel	Dollars	4009 Procurement - Other	Gallons	0.95	2005
13		Aviation Fuel	Dollars	4009 Procurement - Other	Gallons	1	2005

Figure 5-165. Sample WRM Exported Cost Data (Excel Spreadsheet)

Cost Calculations Using WRM Procurement Cost Factors

FOCIS uses the Aviation Fuel cost, transfer, and inventory data shown above to calculate the costs. As Figure 5-166 shows, the annual increases in fuel inventories times the cost of $1.00 per gallon appear in the years where the increases occur.

All costs are assigned to the highest Unit in the Service where WRM Procurement costs occur—in this case (Figure 5-166), the Air & Air Defense Forces Command.

Unit Name	WRM Item	Cost Account	2008	2009	2010	2011
Air & Air Defense Forces Command	Aviation Fuel	4009 Procurement - Other	17,500	5,000	10,000	15,000

Figure 5-166. Cost Results from the FOCIS Calculation

Budget Line Item Cost Data

This section describes Budget Line Item costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Budget Line Item costs, and describes how to use the Budget Line Item cost data windows.

(**Note:** In the following section, we use the term Line Item and Budget Line Item interchangeably. Line Item is simply a shortened version and makes reading easier in some situations.)

Budget Line Item is a unique cost data window in that it is used to represent both operating and investment costs. Budget Line Item costs are used to record actual (or planned) as well as required funding for expenses that cannot be related to force characteristics.

> **Note for Former DRMM Users:**
>
> The DRMM **Projects** cost function has been renamed **Budget Line Items** to better describe the full range of its use. All of the functionality of DRMM Projects is now in the FOCIS Budget Line Items window.

Using Budget Line Item Cost Data

One of the primary objectives of FOCIS is to link defense funding requirements to force characteristics. However, not all defense expenses are directly related to force characteristics. For example, a decision to build a new hospital is not a direct consequence of a force structure decision. Also, the level of funding for an activity such as support to international activities is a policy decision that does not depend on force size, manning, equipage, or training levels.

The primary reason for representing a cost as a Budget Line Item expense is its independence from force characteristics. Expenses that are related to force size, manning, equipage, or training levels should be represented using one of the other cost functions, even if the nature of the relationship can only be approximated. Modeling force-related costs as Budget Line Items undermines some of the utility of using FOCIS.

> **Important:**
>
> Budget Line Item costs should only be used to represent costs that are not affected by force characteristics such as force size, manning, equipage, or training levels.

Before entering Budget Line Item costs, you create Budget Line Categories and Items using the Budget Line Item Setup window as described in Chapter 2 of this manual. After creating Budget Line Items, you can enter costs for any combination of Currencies and Cost Accounts that are required to describe their funding requirements.

The Budget Line Item costs window is the only FOCIS cost window that accepts negative entries. This provides an ability to represent special situations that can arise in defense planning.

For example, an allied country may provide $200,000 worth of fuel so that your country can participate in a combined exercise next year. A good way to handle this situation is to leave the operating cost factors for the participating Units and Equipment unchanged, enter Equipment Use or Unit activity values that include the use of that fuel (e.g., increased kilometers, flying hours, or steaming hours), and then enter -200,000 as the cost of a Budget Line Item for “Fuel Contribution.” By doing this, the true costs of each Unit will be maintained and the net effect on the funding requirements will be correctly shown since the costs of fuel use will be offset by the negative Budget Line Item value.

Budget Line Item costs are used to represent the following types of expenses (this is not an all-inclusive list):

- New buildings, roads, runways, harbors, or other similar construction projects
- Minor procurement (small items that are not separately approved by senior management)

- Recurring information technology (IT) and software purchases (this would not include a major new IT system)
- Research or development projects
- Special training exercises
- One-time expenses (these can be related to a Unit at any level of the structure)
- International activities

Budget Line Item Cost Drivers and Cost Factors

Budget Line Item costs are entered as annual values; therefore, there are no cost drivers and no Cost Factor Types associated with them.

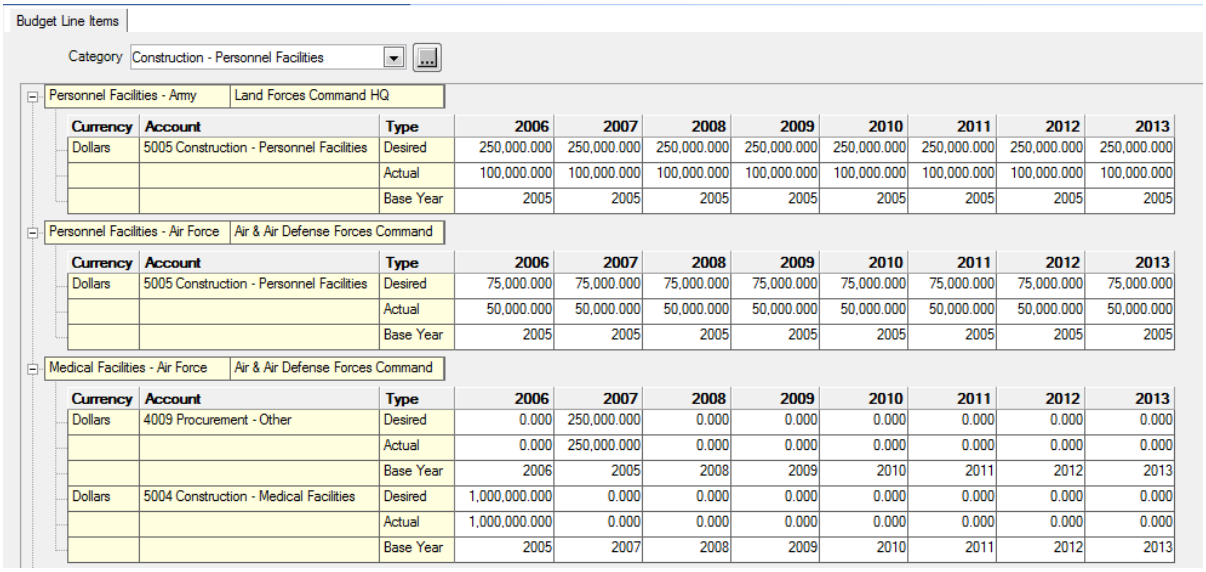
Budget Line Item cost factors have three characteristics, listed in Table 5-13:

Table 5-13. Budget Line Item Cost Factor Characteristics

Category	Characteristic
Cost Characteristics	• Budget Line Item (e.g., Hospital Construction Project)
Budget Characteristics	• Currency (e.g., U.S. dollars) • Cost Account (e.g., Construction)

Every Budget Line Item that is created is associated with a specific Unit. This information is used in the cost result data to associate these costs with Units and Services. Sometimes this Unit is referred to as the **Sponsoring** or **Benefiting Unit**.

The FOCIS Budget Line Item cost window is shown in Figure 5-167. In this example, the Line Items assigned to the Category "Construction – Personnel Facilities" are displayed with the cost data that have been entered. The Unit associated with each Line Item is shown immediately to the right of the Cost Accounts used with that Line Item. Notice there is an opportunity to enter both Desired and Actual values. It is not necessary to enter a value for both.



Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	5005 Construction - Personnel Facilities	Desired	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000
		Actual	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000
		Base Year	2005	2005	2005	2005	2005	2005	2005	2005

Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	5005 Construction - Personnel Facilities	Desired	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000
		Actual	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000
		Base Year	2005	2005	2005	2005	2005	2005	2005	2005

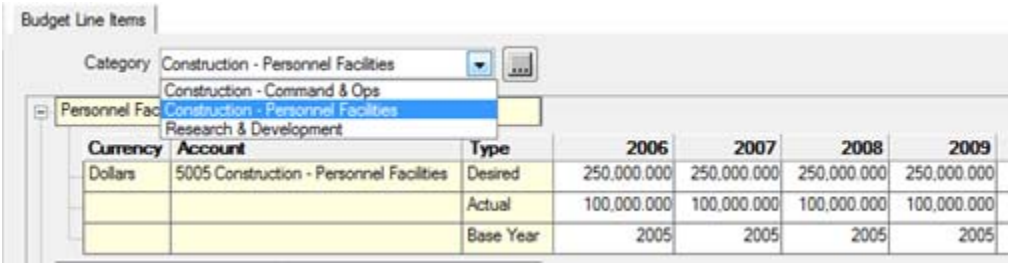
Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	4009 Procurement - Other	Desired	0.000	250,000.000	0.000	0.000	0.000	0.000	0.000	0.000
		Actual	0.000	250,000.000	0.000	0.000	0.000	0.000	0.000	0.000
		Base Year	2006	2005	2008	2009	2010	2011	2012	2013
Dollars	5004 Construction - Medical Facilities	Desired	1,000,000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Actual	1,000,000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Base Year	2005	2007	2008	2009	2010	2011	2012	2013

Figure 5-167. Budget Line Items Cost Window

Notice, in the case of "Medical Facilities – Air Force," that costs have been entered for "5004 Construction – Medical Facilities" and "4009 Procurement – Other." In this example, funds to construct the building and funds to buy medical equipment are included in the same Line Item using two Cost Accounts.

Using the Budget Line Item Cost Window

The Budget Line Item cost window provides a means to create, review, and modify Budget Line Item cost factors. The window shows all Line Items in a single Budget Line Item Category. To select a different Category, click the drop-down arrow next to the currently selected Category to display a list of all Categories (Figure 5-168). If you need to create new Categories or Line Items, click the icon to open the Budget Line Items Setup window.



Currency	Account	Type	2006	2007	2008	2009
Dollars	5005 Construction - Personnel Facilities	Desired	250,000.000	250,000.000	250,000.000	250,000.000
		Actual	100,000.000	100,000.000	100,000.000	100,000.000
		Base Year	2005	2005	2005	2005

Figure 5-168. Budget Line Item Category List

Add a Budget Line Item

To add a new Cost Account entry for a Budget Line Item, right-click on the Line Item to which you want to add a cost and select the **Add** function from the shortcut menu. The window shown in Figure 5-169 will open. The name of the Line Item you will be adding to is shown at the top of this window.

Note: You will select a Currency in the Add window. Make sure the correct Currency is showing before you click **OK**.

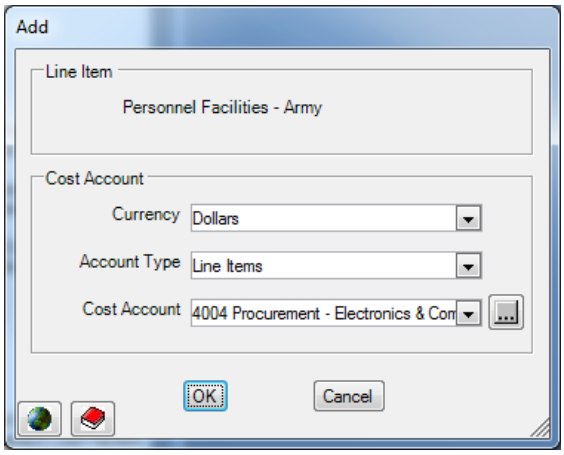


Figure 5-169. Add Window (Budget Line Items)

If you do not see the Cost Account you want to use in the Cost Account selector, use the Account Type selector to choose either **All** or one of the other Account Types. You can choose any Cost Account—it is not necessary for it to have been previously marked for use with Budget Line Item Costs. You can also use the icon to open the Cost Account Setup window to add a new Cost Account if desired. You may use more than one Cost Account with any Budget Line Item if that is appropriate.

After selecting the Cost Account that represents the cost factor you want to add, click **OK** to return to the main Budget Line Item cost window, where you will enter a cost value and Base Year.

Cost factor values can be revised by clicking in the cell that contains the value to change and entering a new value. Click the **Save** button to make any change in cost permanent.

Transfer a Budget Line Item

Sometimes data are accidentally entered for the wrong combination of Budget Line Item, Currency, and Cost Account. FOCIS allows you to transfer the information to any other combination of Budget Line Item, Currency, and Cost Account as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of the Transfer window is shown in Figure 5-170.

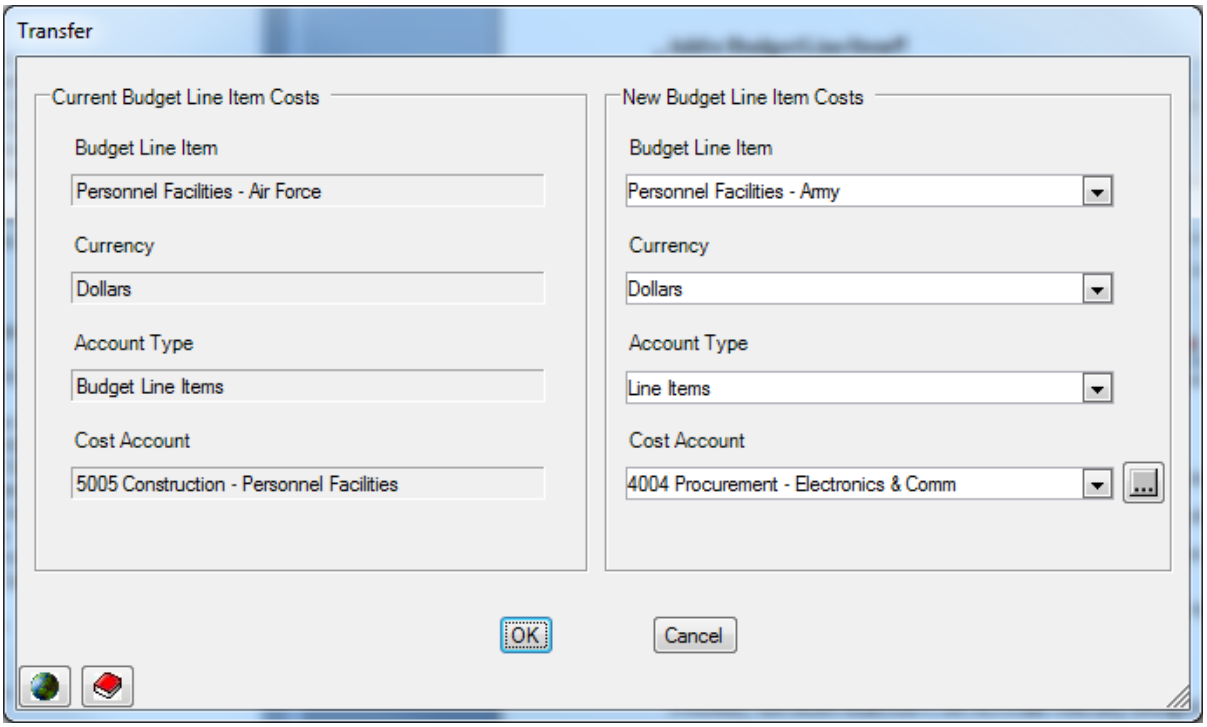


Figure 5-170. Transfer Window

Delete a Line Item Cost Factor

You can delete the cost for a Line Item in one year by revising its value to zero. You can delete a **single** Cost Account by right-clicking on the Cost Account and choosing **Delete** from the shortcut menu shown in Figure 5-171. You can delete all costs for a Line Item and all Cost Accounts by right-clicking on the Line Item and choosing **Delete All** from the shortcut menu. Click the **Save** button to save the changes.

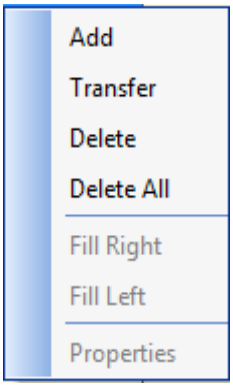


Figure 5-171. Shortcut Menu Options

Exporting Budget Line Item Cost Data

To export all costs that have been entered for this category of Budget Line Item to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. The default spreadsheet filename will include the words “Budget Line Items,” but can be modified as desired. Figure 5-172 shows an example of an exported cost data report.

	A	B	C	D	E	F	G	H
1	Classification: None							
2								
3	Construction - Command & Ops	Command/Admin Facilities - Army	Land Forces Command HQ					
4	Construction - Command & Ops	Electronic Facilities - Army	Land Forces Command HQ					
5	Construction - Command & Ops	Electronic Warfare Facility -Air Force	Air & Air Defense Forces Command					
6	Construction - Personnel Facilities	Personnel Facilities - Army	Land Forces Command HQ					
7								
8		Currency	Account	Type	2006	2007	2008	200
9		Dollars	5005 Construction - Personnel Facili	Desired	250000	250000	250000	250000
10				Actual	100000	100000	100000	100000
11				Base Year	2005	2005	2005	2005
12								
13	Construction - Personnel Facilities	Personnel Facilities - Air Force	Air & Air Defense Forces Command					
14								
15		Currency	Account	Type	2006	2007	2008	200
16		Dollars	5005 Construction - Personnel Facili	Desired	75000	75000	75000	75000
17				Actual	50000	50000	50000	50000
18				Base Year	2005	2005	2005	2005

Figure 5-172. Sample Budget Line Item Exported Cost Data (Excel Spreadsheet)

Cost Calculations Using Budget Line Item Costs

Figure 5-173 shows a sample of the costs that have been entered as Line Item costs. For simplicity, the Base Years have been set to 2005 and the cost calculation was done in 2005 prices.

Budget Line Items

Category: Construction - Personnel Facilities

Personnel Facilities - Army	Land Forces Command HQ								
Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	5005 Construction - Personnel Facilities	Desired	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000	250,000.000
		Actual	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000	100,000.000
		Base Year	2005	2005	2005	2005	2005	2005	2005	2005

Personnel Facilities - Air Force	Air & Air Defense Forces Command								
Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	5005 Construction - Personnel Facilities	Desired	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000	75,000.000
		Actual	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000	50,000.000
		Base Year	2005	2005	2005	2005	2005	2005	2005	2005

Medical Facilities - Air Force	Air & Air Defense Forces Command								
Currency	Account	Type	2006	2007	2008	2009	2010	2011	2012	2013
Dollars	4009 Procurement - Other	Desired	0.000	250,000.000	0.000	0.000	0.000	0.000	0.000	0.000
		Actual	0.000	250,000.000	0.000	0.000	0.000	0.000	0.000	0.000
		Base Year	2006	2005	2008	2009	2010	2011	2012	2013
Dollars	5004 Construction - Medical Facilities	Desired	1,000,000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Actual	1,000,000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Base Year	2005	2007	2008	2009	2010	2011	2012	2013

Figure 5-173. Sample Budget Line Item Costs

The cost report shown in Figure 5-174 shows that these costs are simply added to the budget as they are entered. They would be adjusted for inflation had the Base Years of the data and the cost calculation not all been the same or if the results were shown with inflation for all years.

Budget Line Item Costs

Include Data for: Ministry of Defense | Summarize At: None

Constant price of 2005

Currency | Unit Service

Amount | Year

Budget Lin...	Budget Line Item	Cost Account	2006	2007	2008	2009	2010	2011	2012	2013
Construction - Personnel Facilities	Personnel Facilities - Army	5005 Construction - Personnel	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
	Personnel Facilities - Air Force	5005 Construction - Personnel	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	Medical Facilities - Air Force	4009 Procurement - Other		250,000						
		5004 Construction - Medical	1,000,000							
	Medical Facilities - Air Force Total		1,000,000	250,000						
Construction - Personnel Facilities Total			1,150,000	400,000	150,000	150,000	150,000	150,000	150,000	150,000

Figure 5-174. Sample Cost Report for Budget Line Items

Modifying the Budget Line Item Cost Terminology

FOCIS allows you to modify some of the terminology used with Budget Line Item costs. If you click the icon that opens the Translation window and select the Terminology tab, you can choose the "Cost Data – Budget Line Item Data Types" category to modify the Primary or Alternate terms used to describe the Actual and Desired costs (Figure 5-175).

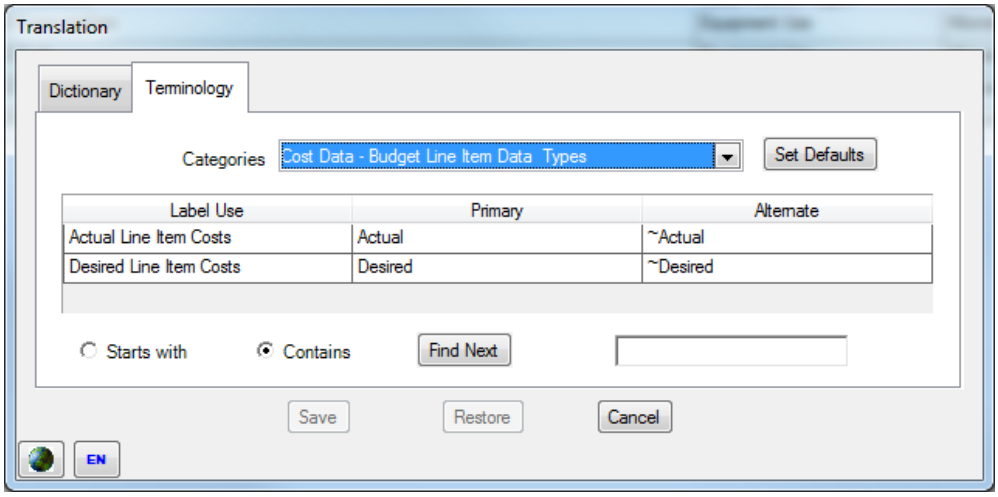


Figure 5-175. Terminology Tab (Budget Line Item Data Types)

Proportional Cost Data

This section describes Proportional Costs, explains how they are used in FOCIS cost calculations, provides suggestions for modeling Proportional Costs, and describes how to use the Proportional Cost data windows.

Proportional Costs are a unique cost function within FOCIS in that they do not provide an ability to enter costs or cost factors but they allow you to create cost result entries that are derived from other calculated FOCIS costs.

Using Proportional Cost Data

Some defense costs are actually based on the values of other costs. For example, National Insurance costs are often set by law as a percentage of pay costs and some countries have value added taxes (VAT) that must be included in estimates of the cost of anything that is purchased. FOCIS's Proportional Cost window allows you to describe these costs in terms of annual percentages. You can create National Insurance costs by simply specifying the percentage that they are year-by-year and describing which costs should be the basis for the National Insurance costs.

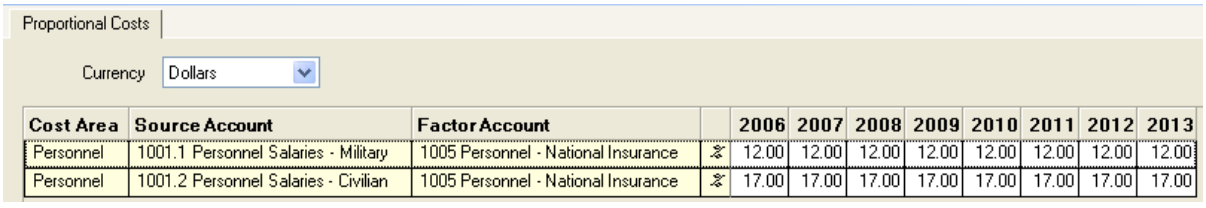
> **Important:**
>
> Whenever there is a cost that is best described as a percentage of any other cost, it is easiest to represent that cost as a Proportional Cost.

If you use a Proportional Cost, like National Insurance, to represent costs that are a percentage of some other costs, then you avoid having to create separate cost factors for every combination of Service and Personnel Type and modify those values as the pay of these people changes. If there are perhaps 20 pay cost factors, a single Proportional Cost factor will produce the same results as creating 20 Personnel cost factors for National Insurance.

You create Proportional Costs using the window shown in Figure 5-176. Notice that each set of percentages is defined in terms of:

- A Currency, Cost Area, and Cost Account that identify the basis to which the proportional percentage should be applied, and
- A Cost Account that is used with each cost result created.

Percentages are entered separately for each year to match any known future changes.



Cost Area	Source Account	Factor Account		2006	2007	2008	2009	2010	2011	2012	2013
Personnel	1001.1 Personnel Salaries - Military	1005 Personnel - National Insurance		12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Personnel	1001.2 Personnel Salaries - Civilian	1005 Personnel - National Insurance		17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00

Figure 5-176. Proportional Costs Window

FOCIS uses these percentages to create new entries in the cost result data. This preserves all of the characteristics of the data used to create the original cost data. A National Insurance Proportional Cost result data record created for Personnel costs of an Active Officer in the Land Forces and in some specific Unit, will retain that same information (Personnel Type, Service, and Unit) but will now be recorded using the Cost Account created for National Insurance.

Proportional Costs cannot be used to create costs that depend on other Proportional Costs.

Proportional Cost Drivers and Cost Factors

Proportional Costs are entered as annual percentages; therefore, there are no cost drivers and no cost factor types associated with them.

Using the Proportional Cost Window

The Proportional Cost window provides a means to create, review, and modify Proportional Cost factors.

Add a Proportional Cost

To add a new Proportional Cost, right-click in the grid area of the window and select the **Add** function from the shortcut menu. The Add window, shown in Figure 5-177, will open. The name of the Currency selected on the main window is shown at the top of this window.

The first thing you need to do is choose the Cost Area and Cost Account that will be the basis for calculating the Proportional Costs.

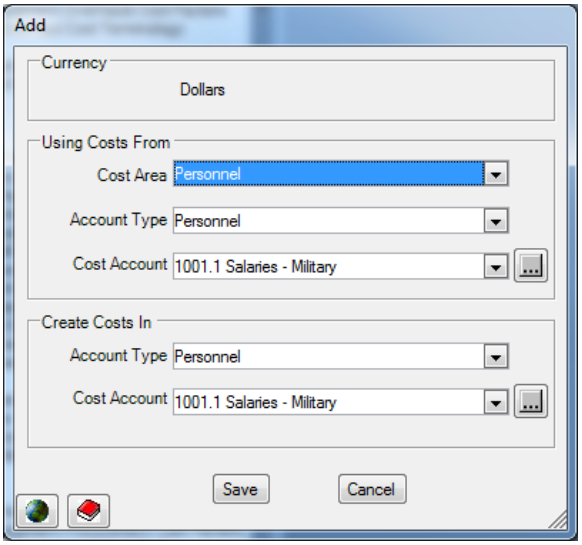


Figure 5-177. Add Window (Proportional Cost)

Choose a Cost Area[8] from the list shown in Figure 5-178.

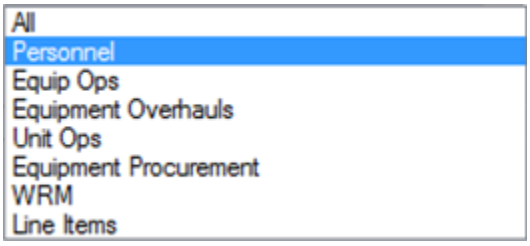


Figure 5-178. Cost Area List

Next, choose a Cost Account. If you do not see the Cost Account you want to use in the Cost Account selector, use the Account Type selector to either choose **All** or one of the other

[8] Cost Areas refer to different types of cost data and the different types of cost calculations FOCIS performs.

Account Types. You can also use the icon to open the Cost Account Setup window to add a new Cost Account if desired.

After selecting the Cost Area and Cost Account that identify the basis for selecting costs to multiply by the percentage you will enter, you must select a Cost Account that will be used to define the Proportional Costs that will be created. (**Note:** the Cost Area of the created record will match the Cost Area of the record that served as the basis of the Proportional Cost.)

After selecting the basis for the Proportional Cost and Cost Account for the new costs that will be added, click **OK** to return to the main Proportional Cost window, where you will enter percentages year by year.

Proportional Cost percentages can be revised by clicking in the cell with the value you want to change and entering a new value. Click the **Save** button to make any change in cost permanent.

Transfer a Proportional Cost Factor

Sometimes data are accidentally entered for the wrong source or factor account (combination of Account Type and Cost Account). FOCIS allows you to transfer the information to any other combination of source and factor account as long as the new combination does not already exist. Right-click on the data you want to transfer and select **Transfer** from the shortcut menu to access the Transfer window. An example of the Transfer window is shown in Figure 5-179.

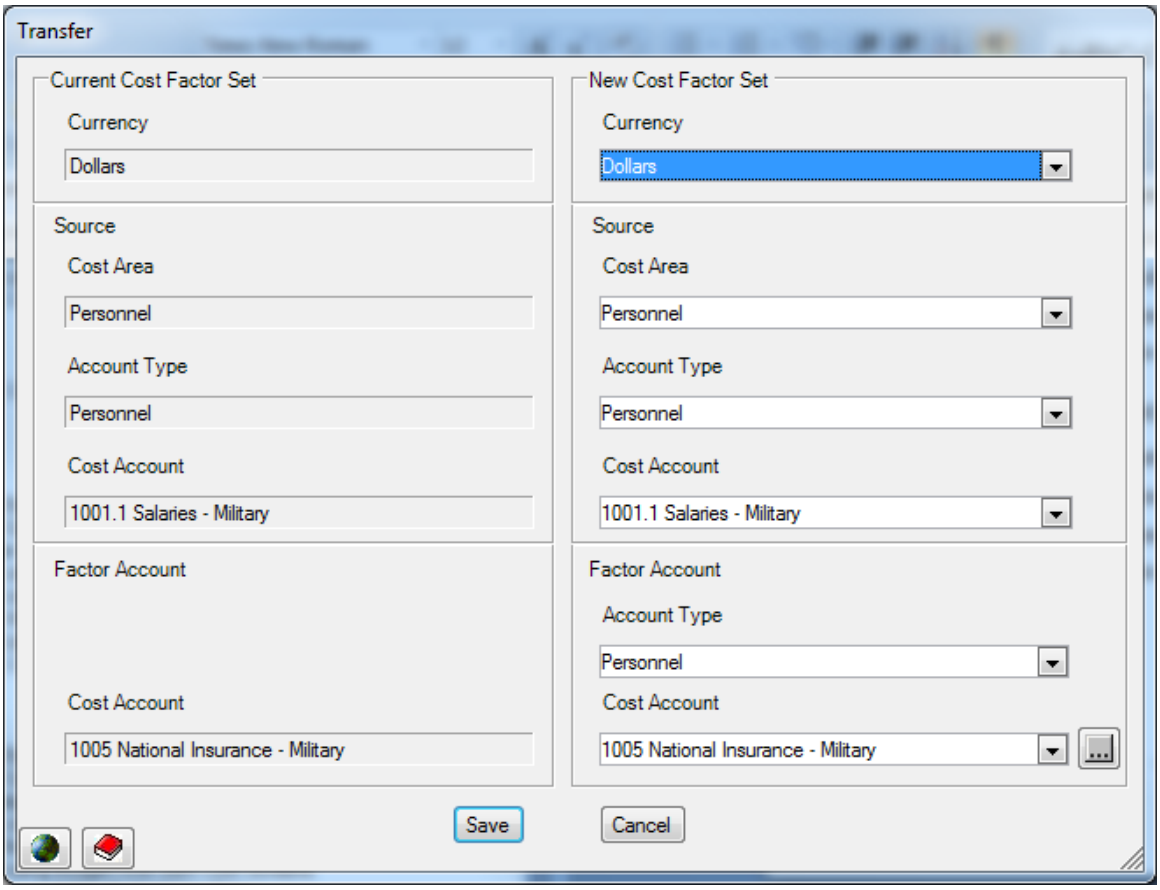


Figure 5-179. Transfer Window

Delete a Proportional Cost Factor

You can delete a Proportional Cost in one year by revising its value to zero. You can delete one set of Proportional Cost percentages by right-clicking in the grid area and choosing **Delete Row** from the shortcut menu shown in Figure 5-180. Click the **Save** button to make any change permanent.

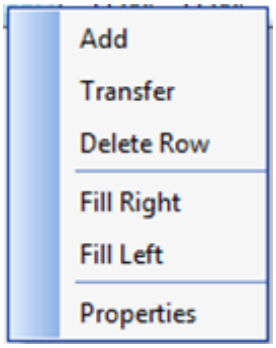


Figure 5-180. Shortcut Menu Options

Fill-Right and Fill-Left

By placing the cursor in any cell, you can copy the percentage in that cell to all other cells to the right or left of it by right-clicking and choosing **Fill Right** or **Fill Left** from the shortcut menu. Click the **Save** button to make any change in cost permanent.

Exporting Proportional Cost Data

To export Proportional Cost data to an Excel spreadsheet, click on the

icon at the top of the FOCIS window. Figure 5-181 shows an example of an exported cost data report.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Classification: None											
2												
3	Cost Area	Source Account	Factor Account		2006	2007	2008	2009	2010	2011	2012	2013
4	Personnel	1001.1 Salaries - Military	1005 National Insurance - Milita	%	12	12	12	12	12	12	12	12
5	Personnel	1001.2 Salaries - Civilian	1005 National Insurance - Civil	%	17	17	17	17	17	17	17	17

Figure 5-181. Sample Proportional Cost Exported Data (Excel Spreadsheet)

Cost Calculations Using Proportional Costs

Figure 5-182 shows an example of Proportional Cost entries. Cost entries are added to the result that correspond to every entry created for the Cost Area and Cost Account on which the Proportional Cost is based. For this example, we have used the Proportional Cost percentage based on costs calculated in the Personnel Cost Area for the Source Cost Account "1001.1 Salaries – Military."

Proportional Costs

Currency: Dollars

Cost Area	Source Account	Factor Account		2006	2007	2008	2009	2010	2011	2012	2013
Personnel	1001.1 Salaries - Military	1005 National Insurance - Military	%	12.00	12.00	12.00	14.00	14.00	14.00	14.00	14.00

Figure 5-182. Sample Proportional Costs Entries

The cost results shown in Figure 5-183 are for one Unit (Military Recruitment Center).

Amount | Year

Unit Name	Personnel ...	Cost Account	2006	2007	2008	2009	2010	2011	2012	2013
Military Recruitment Center	Field Grade Officer	1001.1 Salaries - Military	14,144	14,144	14,144	14,144	14,144	14,144	14,144	14,144
		1005 National Insurance - Military	1,697	1,697	1,697	1,980	1,980	1,980	1,980	1,980
	Field Grade Officer Total		15,841	15,841	15,841	16,124	16,124	16,124	16,124	16,124
	Company Grade Office	1001.1 Salaries - Military	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104
		1005 National Insurance - Military	3,732	3,732	3,732	4,355	4,355	4,355	4,355	4,355
	Company Grade Office Total		34,836	34,836	34,836	35,459	35,459	35,459	35,459	35,459
	Enlisted	1001.1 Salaries - Military	194,400	194,400	194,400	194,400	194,400	194,400	194,400	194,400
		1005 National Insurance - Military	23,328	23,328	23,328	27,216	27,216	27,216	27,216	27,216
	Enlisted Total		217,728	217,728	217,728	221,616	221,616	221,616	221,616	221,616
Military Recruitment Center Total			268,406	268,406	268,406	273,199	273,199	273,199	273,199	273,199

Figure 5-183. Sample Proportional Cost Results

Notice that for each Personnel Type there is an entry of "1001.1 Salaries – Military" and one for "1005 National Insurance – Military." In the years 2006 – 2008, the National Insurance values are 12% of the Salaries. In 2009- 2013, they are 14%.

Inflation Data

This section describes Inflation data, explains how Inflation data are used in FOCIS cost calculations, provides suggestions for using FOCIS's Inflation features, and describes how to use the Inflation window.

Inflation data have a significant impact on FOCIS cost estimates for two reasons. First, FOCIS uses Inflation data to adjust cost rates and other cost data inputs so they all represent

costs in the same year. Second, when reports of cost results are produced with future Inflation, it is the data from the Inflation window that is used to add future price adjustments.

Using Inflation in FOCIS

Inflation Rates

Inflation rates exist for every combination of Currencies and Cost Accounts. FOCIS Inflation data windows provide a means to document historical price level changes and an opportunity to record assumptions about future inflation. Each Currency has a default set of Inflation rates and these default rates apply to all Cost Accounts that do not have their own unique set of Inflation rates. Where the Inflation data associated with a specific Cost Account is different from the default rates for a Currency, you may enter unique Inflation data for that Cost Account. The Default Currency Inflation rates are used for all Cost Accounts that do not have a user-created set of Inflation data.

If the Inflation rates that apply to multiple Cost Accounts are the same (e.g., several types of fuel), FOCIS allows you to link Inflation data for these Cost Accounts so that you only need to enter the rates one time to cause them to be the same for all linked rates. When you decide that multiple Cost Accounts have the same Inflation, you will decide on one Cost Account to use as the Master Account. You will enter and edit Inflation data for this Master Account and the Inflation data for the other linked Accounts (called Dependent Accounts) will automatically be updated. At any time, you can decide to break out one or more Cost Accounts from a group of linked Cost Accounts so that those rates can have their own unique annual rates.

Figure 5-184 shows how Master and Dependent Accounts appear in the Inflation window. The Account that is being used as the Master Account is shown with data in all years. Any Accounts that are linked as Dependent Accounts are simply shown below the Master Account without rates. Any changes made and saved to the Master Account are automatically saved for all linked Dependent Accounts.

In the example in Figure 5-184, “1001.1 Salaries – Military” is a Master Account and it has one linked Dependent Account, “1001.2 Salaries – Civilian.” In the same figure, “2200 Fuel” is another Master Account but it has no Dependent Accounts.

Figure 5-184. Inflation Rates Window

Even though all Cost Accounts do not appear in the window, you can think of all Cost Accounts that do not show as being Dependents of the Default rate.

Sometimes it is more convenient to enter Inflation data in terms of its index values (e.g., 105.0, 110.25) rather than as annual rates. When this is the case, you will want to set up the display of Inflation data in a way that makes the index rate "**100**" in some specific year. This designated year, when the index rate is **100**, is called the Base Year for the Inflation table. You can change the Inflation Base Year using the selector in the upper right corner of the window. FOCIS recalculates all entries in the Index row based on the Annual % entries every time the Inflation Base Year is changed. FOCIS saves the Annual % entries and calculates Index values so that the Index in the Inflation Base Year is 100. If you edit an Index value, FOCIS uses that information to update the Annual % entries.

Inflation Rates and Pay Raises for Personnel

One of the trickiest aspects of using FOCIS is the problem of properly reflecting pay as it changes over several years and reflecting future pay increases. Changes in pay levels from year to year are a form of Inflation because the cost to purchase the same product (one year of labor) has changed. We can examine this using the Annual Rates portion of the FOCIS Personnel Cost window.

First, look at the Inflation data shown in Figure 5-185.

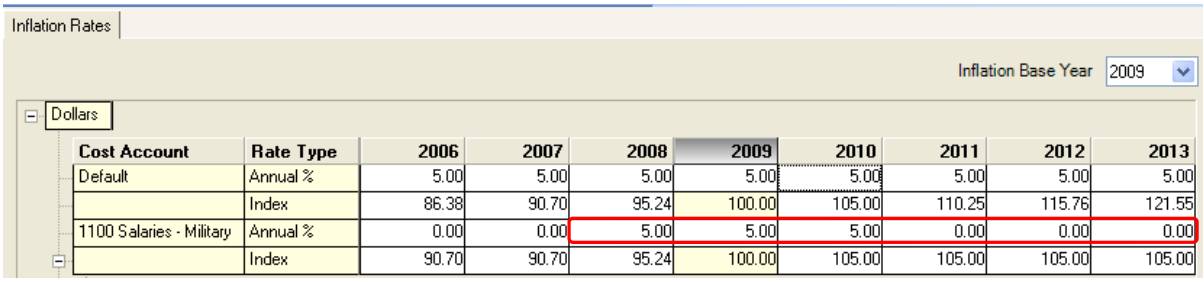


Figure 5-185. Sample Inflation Rates for Pay

Notice there is a Default set of rates for the Currency "Dollars" and there is a second set of Inflation rates for "1100 Salaries – Military," where the rate is 5% in 2008–2010 and then zero in later years.

In the following discussion, we will look at one military salary cost factor. The Standard Factor entry is shown in Figure 5-186, where the salary has been entered as 10,800 in 2009 prices.

Cost Account	Cost Factor Type	Metric	Cost	Base Year
1100 Salaries - Military	Per Person	Per Year	10,800.000000	2009

Figure 5-186. Sample Pay Rate for 2009

Figure 5-187 is the bottom portion of the Personnel Single Factor data entry window.

Annual Factors: 1100 Salaries - Military Inflation Base Year: 2009

Rate	2008	2009	2010	2011	2012	2013
Inflation (Annual) %	5.00	5.00	5.00	0.00	0.00	0.00
Inflation (Index)	95.24	100.00	105.00	105.00	105.00	105.00
Std Cost (Infl Base Yr)	10,800.00	10,800.00	10,800.00	10,800.00	10,800.00	10,800.00
Funding Level %	100.00	100.00	100.00	100.00	100.00	100.00
Factor (No Inflation)	10,800.00	10,800.00	10,800.00	10,800.00	10,800.00	10,800.00
Factor (With Inflation)	10,285.71	10,800.00	11,340.00	11,340.00	11,340.00	11,340.00

Figure 5-187. Personnel Single Factor Data Entry Window (Annual Factors)

The Annual Rates display has been set to show Inflation data in the 2009 Inflation Base Year. Let's start the examination of these data and how Inflation affects them by looking at the second line, where the Index values are shown based on the 2009 Base Year. Notice that the Inflation Index in the Base Year, 2009, is **100.00** and increases each subsequent year based on the following formula (where *y* is some year):

Index (*y*+1) = Index (*y*) * (1 + Annual Rate(*y*+1))

For example:
105.00 = 100.00 * (1 + 0.05) for 2010
105.00 = 105.00 * (1 + 0.00) for 2011

Next, you will notice that because the Funding Level is 100% in all years, the values in the **Factor (No Inflation)** row are all exactly equal to the Standard Cost of 10,800. Now look at the last row, **Factor (With Inflation)**. In every year, the value is based on the following formula:

Factor (With Inflation)*(y)* = Factor (With Inflation)*(y)* * Index *(y)/100*)

For example:
10,285.71 = 10,800 * 95.24/100 for 2008
11,340.00 = 10,800 * 105.00/100 for 2010

If estimates of Personnel Costs were shown in a report where Inflation was included, the effective rates that would have been used each year are the rates that show on the line labeled **Factor (With Inflation)**.

In many countries, defense ministries are prohibited from forecasting future pay increases for any Personnel. This is a matter reserved to either a higher level of government or even to the legislative branch of government. When this is the case, the annual Inflation rates for all Pay Cost Accounts should be set to zero for all years in the future.

As described above, annual Inflation for Pay Cost Accounts is thus identical to the annual pay raise percentage.

If pay raises are the same for all Personnel Types, then it is reasonable to create a single Cost Account for salaries. However if pay raises are different for Military and Civilian Personnel, then separate Cost Accounts should be created so that separate annual Inflation rates can be created to represent the different pay raises. Likewise, if officers receive a different pay raise than enlisted soldiers receive, it may be a good idea to create separate Cost Accounts for each.

The same concept may apply to other allowances such as uniforms or food if annual increases differ for different types of Personnel.

Using the Inflation Window

The Inflation window provides a means to create, review, and modify Inflation rates. The window shows an entry with a Default Cost Account for all Currencies that have been created. Separate entries for actual Cost Accounts exist only where you have added them to the Inflation table.

Add Inflation Rates for a Cost Account

To add rates for a Cost Account that is not already included under a Currency, right-click on the Currency or Cost Account where you want to add the new account and select the **Add** function from the shortcut menu to display the sub-options shown in Figure 5-188.

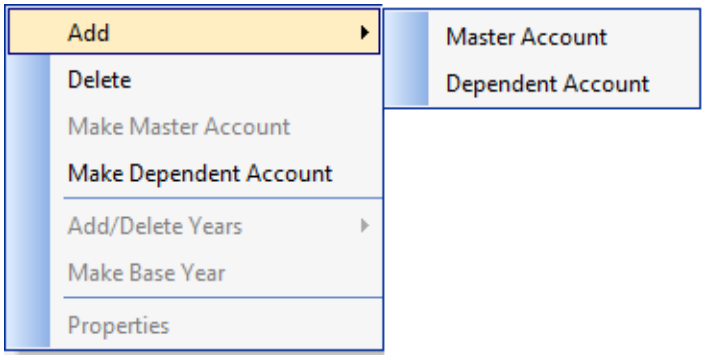


Figure 5-188. Inflation Rates Shortcut Menu

If the Cost Account you are going to add is to be added as a Master Account, select the **Master Account** sub-option. If you want to add a Cost Account as a Dependent Account, first make sure you have right-clicked on one of the Cost Accounts with Inflation data, and then choose the **Dependent Account** sub-option.

After choosing **Master Account** or **Dependent Account**, the window in Figure 5-189 will open.

If you do not see the Cost Account you want to use in the Cost Account selector, use the Account Type selector to choose **All** or one of the other Account Types. You can also use the icon to open the Cost Account Setup window to add a new Cost Account, if desired.

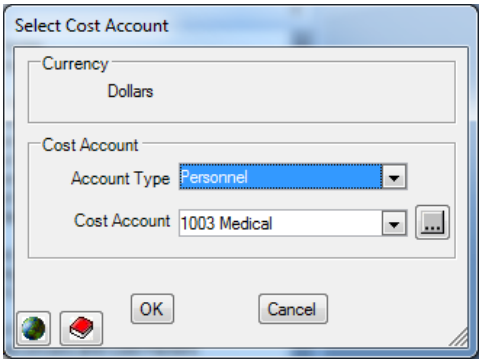


Figure 5-189. Select Cost Account Window

After selecting the Cost Account you want to add, click **OK** to return to the main Inflation window (Figure 5-190), where, if this is a Master Account, you will enter Annual Rates. The Default rates will be used as the initial rates for the new entry. You can modify them by clicking in any cell where a change is required.

Inflation Rates

Inflation Base Year: 2009

Dollars

Cost Account	Rate Type	2006	2007	2008	2009	2010	2011	2012	2013
Default	Annual %	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Index	86.38	90.70	95.24	100.00	105.00	110.25	115.76	121.55
1100 Salaries - Military	Annual %	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
	Index	71.18	79.72	89.29	100.00	112.00	125.44	140.49	157.35

1200 Salaries - Civilian

Cost Account	Rate Type	2006	2007	2008	2009	2010	2011	2012	2013
2200 Fuel	Annual %	8.00	-10.00	5.00	5.00	5.00	5.00	5.00	5.00
	Index	100.78	90.70	95.24	100.00	105.00	110.25	115.76	121.55

Figure 5-190. Original Inflation Rates Window

If you had earlier (Figure 5-188) chosen to add a Dependent Account, you will return to the main Inflation window (Figure 5-191), where you will see this newly selected account listed under the Master Account you had originally chosen.

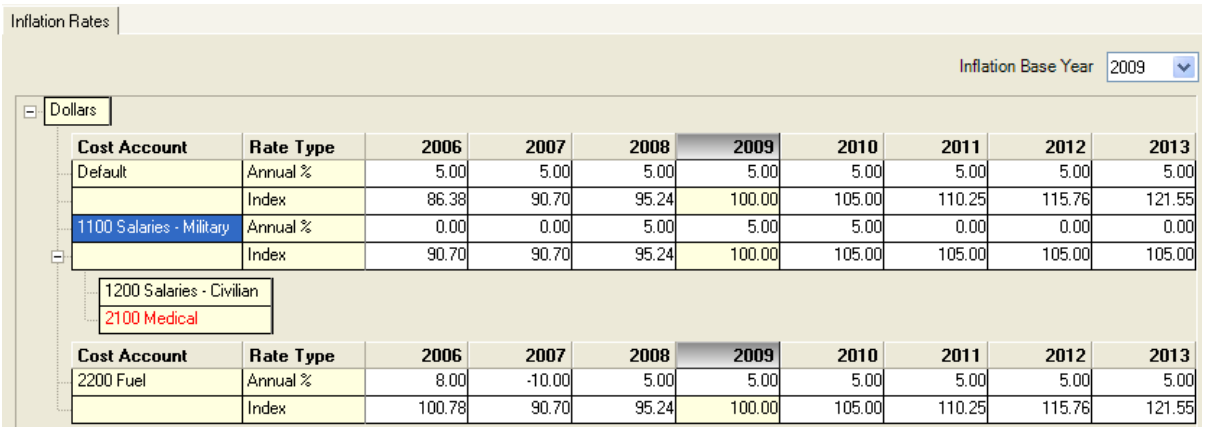


Figure 5-191. Modified Inflation Rates Window (New Dependent Account)

Note that the new Dependent Account is shown in red until you click **Save**.

Either the Annual rates or Index values can be revised by clicking in the cell with the value you want to change and entering a new value. If a change is made to an Annual Rate, all affected Index rates will be recalculated. If an Index rate is changed, the Annual Rate that established this rate will be modified. Click the **Save** button to make any change in rates permanent.

Delete Inflation Rates

You can delete the Inflation rates for a selected Cost Account by right-clicking in either the Cost Account or Rate Type cell and selecting the **Delete** option, as shown in Figure 5-192. This will place zeros in all cells in the row with the Annual Rates. Click the **Save** button to make the deletion permanent.

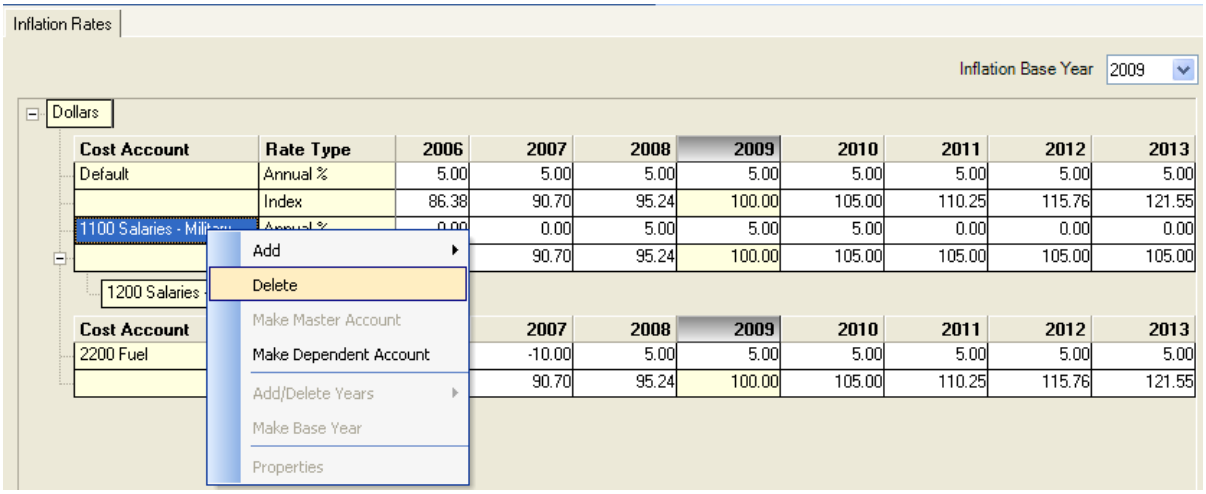


Figure 5-192. Delete Option on Shortcut Menu

The Default Inflation Rate cannot be deleted; however, its values can be set to zero.

Change between Master and Dependent Status

If you want to change a Cost Account that is now a Master Account into a Dependent Account, right-click in either the Cost Account or Rate Type cell and choose **Make Dependent Account**, as shown in Figure 5-193. A Select Cost Account window (identical to the one shown in Figure 5-189) opens, where you will choose from a list of Master Accounts.

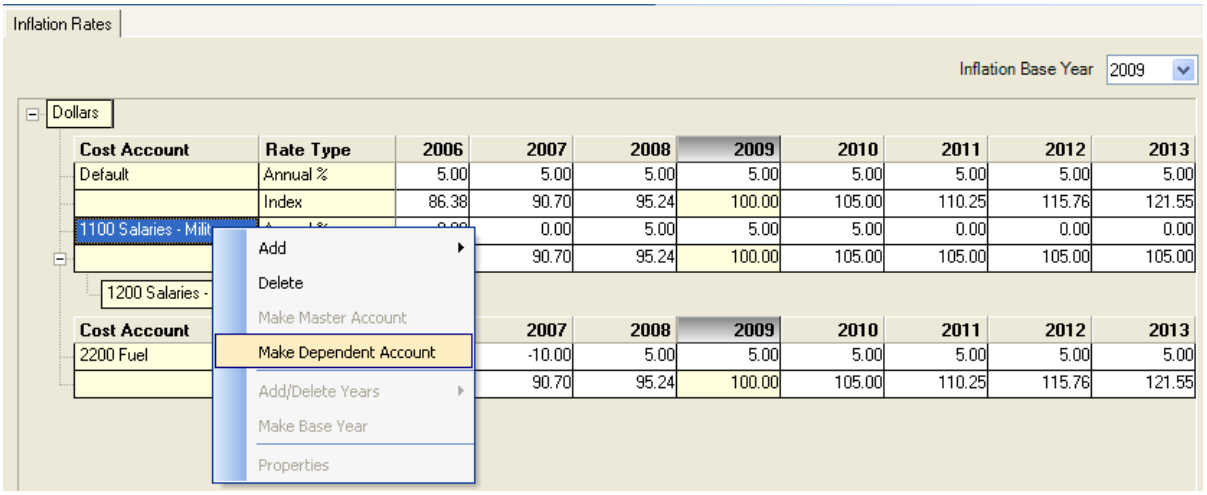


Figure 5-193. Make Dependent Account Option on Shortcut Menu

If you want to change a Cost Account that is now a Dependent Account into a Master Account, right-click in either its Cost Account or Rate Type cell and choose **Make Master Account**, as shown in Figure 5-194. FOCIS will create a new entry with the chosen Cost Account changed to a Master Account and the rates will remain the same as they were when it was a Dependent Account.

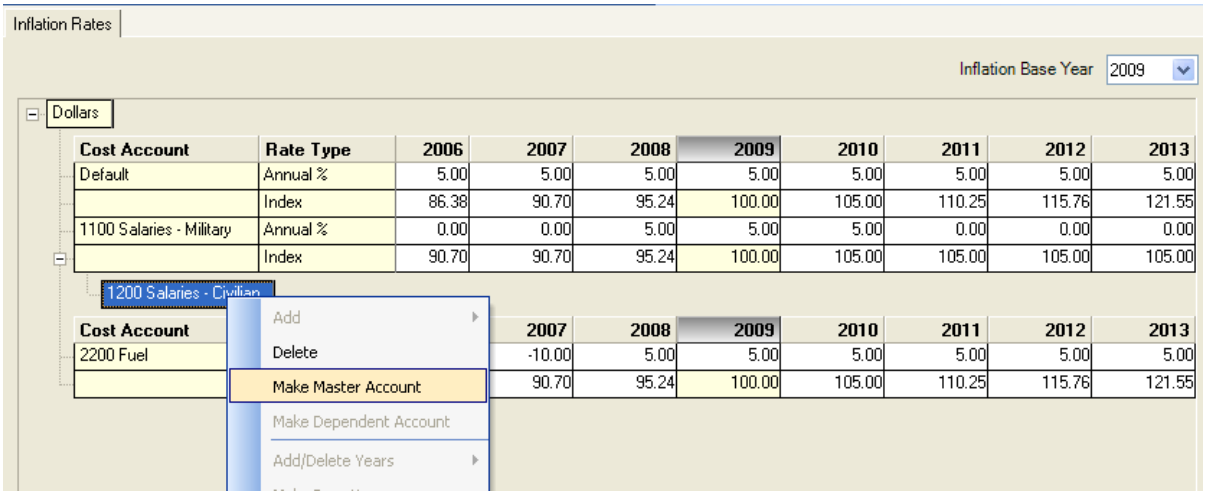


Figure 5-194. Make Master Account Option on Shortcut Menu

Change Inflation Base Year

You can change the Inflation Base Year by using the Inflation Base Year selector in the upper right corner of the window, as shown in Figure 5-195, or by right-clicking on a year in any header row and choosing **Make Base Year** from the shortcut menu, as shown in Figure 5-196.

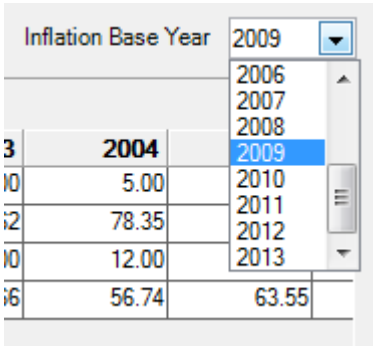


Figure 5-195. Inflation Base Year Selector

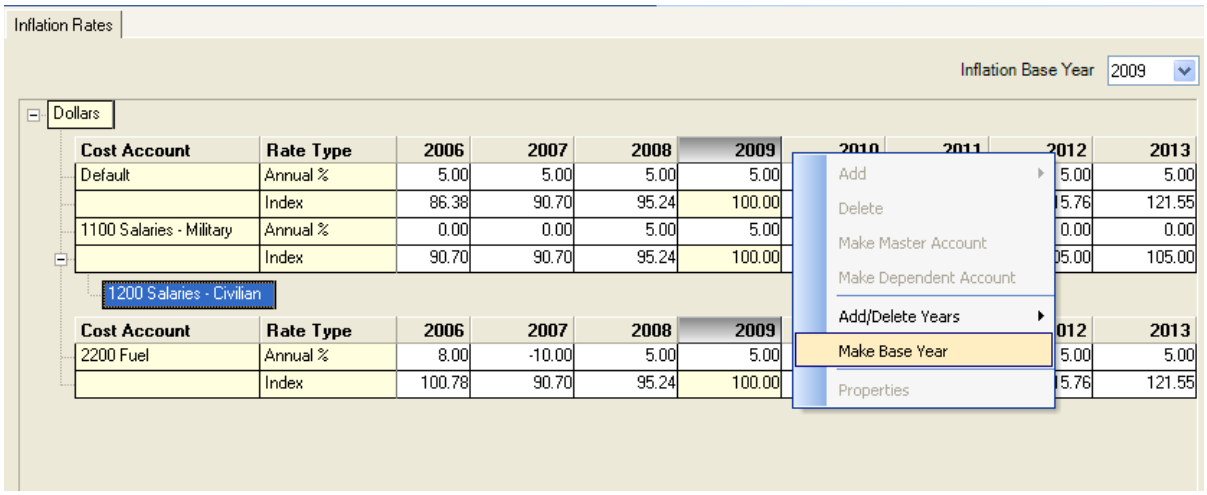


Figure 5-196. Make Base Year Option on Shortcut Menu

Exporting Inflation Data

To export Inflation data to an Excel spreadsheet, click on the Export icon at the top of the FOCIS window. An example of exported Inflation data is shown in Figure 5-197.

	A	B	C	D	E	F	G	H	I	J	K
1	Classification: None										
2											
3	Dollars										
4											
5		Cost Account	Rate Type	1999	2000	2001	2002	2003	2004	2005	2006
6		Default	Annual %	10	10	9	8	5	5	5	5
7			Index	54.8824	60.3706	65.8039	71.0682	74.6216	78.3527	82.2703	86.3838
8		1100 Salaries - Mili	Annual %	13	12	12	12	12	12	0	0
9			Index	51.4673	57.6434	64.5606	72.3079	80.9848	90.703	90.703	90.703
10											
11			Cost Account	Rate Type	1999	2000	2001	2002	2003	2004	2005
12			1200 Salaries - Civilian	Annual %	13	12	12	12	12	12	0
13				Index	51.4673	57.6434	64.5606	72.3079	80.9848	90.703	90.703
14											
15		2200 Fuel	Annual %	8.75	8.22	5	-2	2.5	20.1	12.3	8
16			Index	60.6159	65.5985	68.8784	67.5008	69.1883	83.0951	93.3158	100.7811

Figure 5-197. Exported Inflation Data (Excel Spreadsheet)

Modifying the Inflation Terminology

FOCIS allows users to modify some of the terminology used with the Inflation Rate window. If you click the icon that opens the Translation window and select the Terminology tab, you can choose the "Cost Data – Inflation Rate Types" category to modify the Primary or Alternate terms used to describe the Annual and Index rate labels if you prefer different terms (Figure 5-198). You can also use this to enter Alternative labels in your own language.

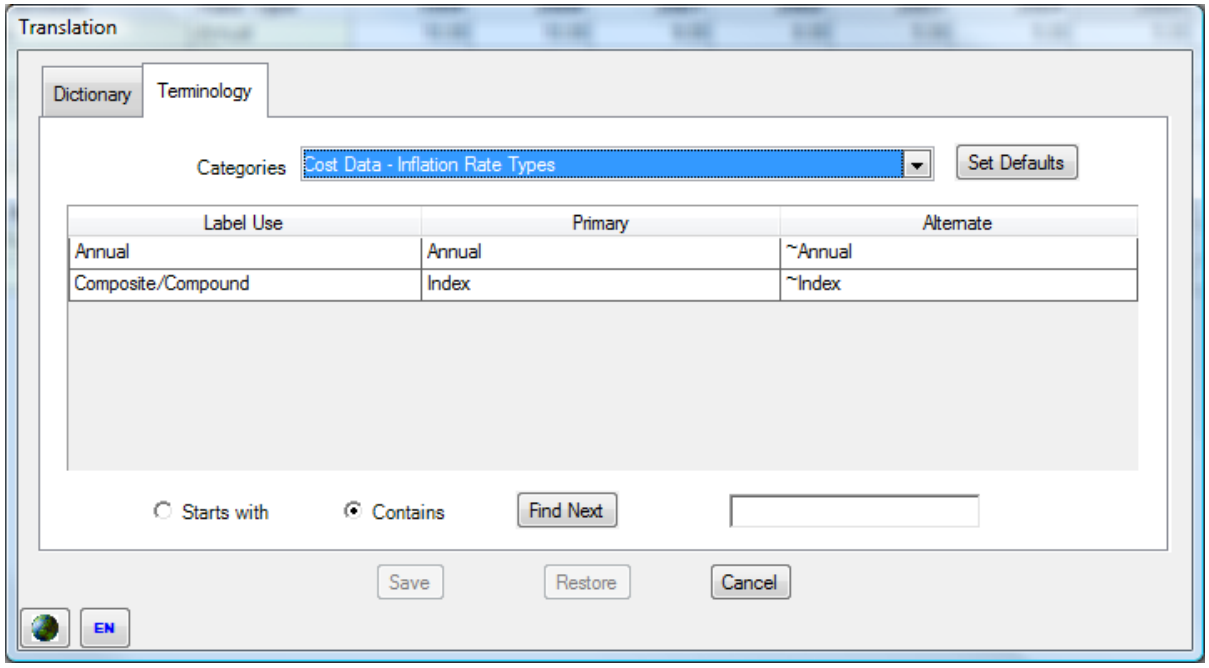


Figure 5-198. Terminology Tab (Inflation Rate Types)

Exchange Rates

You have the ability to enter costs using multiple Currencies. You can also describe the relationship between the Currencies as Exchange Rates and create reports that apply these

rates so that all cost data in a report is converted to comparable costs in a single Currency. The single Currency, called the Base Currency, is set in the Exchange Rates window.

The Exchange Rates window (shown in Figure 5-199) is used to enter year-by-year Exchange Rate data and to select a Base Currency. The Base Currency is used as the displayed Currency when creating reports where Exchange Rates are applied.

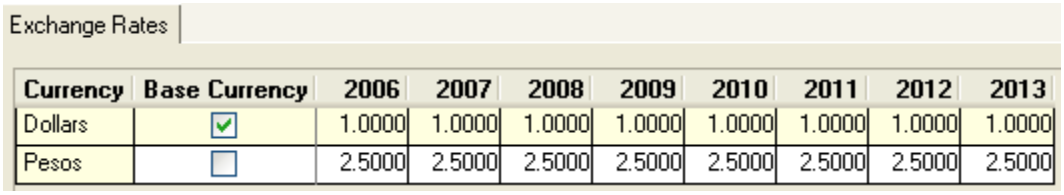


Figure 5-199. Exchange Rates Window

Standard FOCIS control buttons (shown in Figure 5-200) are available at the bottom of the Exchange Rates window to allow you to save edited data, restore data to its previous unedited status, refresh the data in the display to show any changes made by other users, and to resize the cells to a common column width.

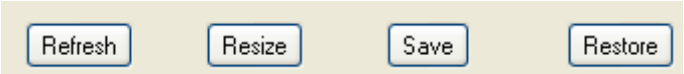


Figure 5-200. Exchange Rate Control Buttons

The Exchange Rates shortcut menu (shown in Figure 5-201) is simpler than the shortcut menus in other Cost windows because there is no need to add new rows and it is not possible to delete a row for any existing Currency. Whenever a new Currency is added through the Currencies window in the Setup Data work area, FOCIS places a new row in the Exchange Rates window with rates of 1.000. When a Currency is removed, FOCIS removes the corresponding entry from the Exchange Rates window.

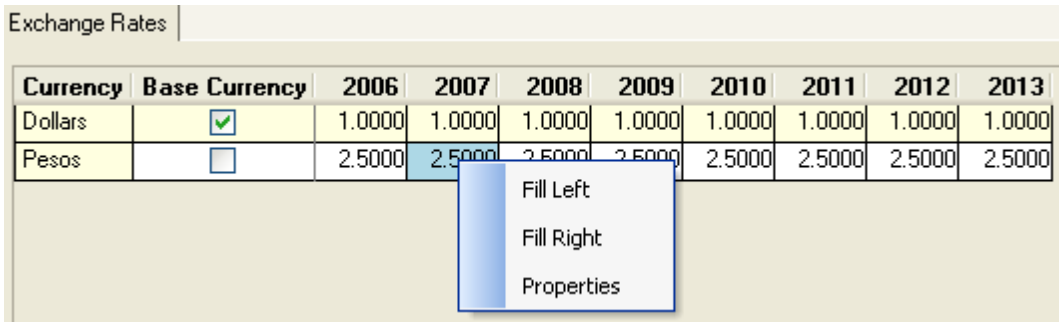


Figure 5-201. Exchange Rates Shortcut Menu

The **Fill Left** and **Fill Right** functions work the same way as they do in all other FOCIS windows. Right-click in the cell that you want to copy left or right and select the appropriate menu option. The **Properties** function displays information on the user who made the last change to the data item and shows the date and time of the change.

Chapter 6.
Analysis Models

For any information system to be useful to commanders, managers, or analysts, it must provide information in ways that relate directly to their interests. Unfortunately, the characteristics of the raw data in most databases, including FOCIS, are too detailed to satisfy the general interests of important senior users. These databases need additional tools to organize and summarize the raw data into useful information. The tools needed to accomplish this must also be flexible and easily modified because interests change regularly as new problems and approaches to solving them arise.

FOCIS provides you with the capability to organize and summarize data into useful categories and analytic frameworks through its Analysis Models and Reports windows. FOCIS calls the analytic frameworks "Models."

Models are user-designed, multi-level structures made up of categories.

A simple example of a FOCIS Model is a mission structure where you describe the missions of the defense establishment and then associate individual Units with each mission. Having done this, many types of data (e.g., Cost, Manpower, Equipment fill rates) can be viewed in terms of the mission categories. Because FOCIS retains access to the details within each category, commanders, managers, and analysts can dig into the details within the missions when those details are of interest, or information can simply be reported by mission.

One common starting point for creating a FOCIS model is an understanding of current management and analytical interests. If there are policy documents that provide defense program guidance, they are likely to identify goals and priorities in general terms based on missions, geographic areas, and/or defense functions. If the policies are expressed in these summary terms, Models can be created that correspond to locations, missions, or functions, and reports can be created to summarize data in those terms.

Models can also be used to summarize data in ways that are more useful to commanders and managers. Models can summarize Cost, Manpower, or Equipment details, or group data based solely on the Unit that generates costs or has Manpower or Equipment.

For example, instead of having to choose between Cost reports that either have too much or no detail, a Model could be constructed to summarize Cost data into three broad categories: Personnel, Operations and Maintenance, and Investment. These categories can be used in reports to summarize cost data. If desired, these categories could be further broken down in subcategories perhaps to highlight fuel and maintenance costs within the Operations and Maintenance category.

FOCIS models can be used in many ways, including the following:

- Manpower, Equipage, WRM inventories, or costs organized and summarized by:
  - Mission (e.g., internal security, territorial defense),
  - Mission and sub-mission (e.g., ISO- Infantry, ISO-Mechanized)
  - Area of operations (e.g., Northern and Southern Combatant Commands)
  - Function (e.g., combat, logistics, transportation, communications, headquarters).
  - Physical location (e.g., by region and base)
- Equipment inventories, usage, or cost organized and summarized by:
  - Criticality (e.g., major land combat, major air combat, major surface combat)
  - Function (e.g., firepower, mobility, command and control)
- Personnel quantities and costs categorized and summarized at a very summary level (e.g., officer, enlisted, civilian)
- Cost data organized and summarized by:
  - National budget category and subcategory
  - Units that purchase commodities (e.g., fuel, ammunition, food) cross-referenced with the Units that should receive the material purchased

The value of FOCIS Models is realized by incorporating them into FOCIS reports. This chapter describes Analysis Models (i.e., Models). Chapter 7 describes how these Models are used in creating reports to produce useful information to support analysis and decision-making.

This chapter is composed of four main sections:

- A general background describing what FOCIS Models are, with several suggestions on how they can be used
- How Models are added to FOCIS via the Setup window
- How to use the Analysis Models Work Area tools for creating and revising categories (i.e., the structure of the Model)
- How Resources are associated with the categories that make up a Model

Models are created and exist within a database Position. A Model created in one Position is carried forward to a new version of that Position when the "**File > Save As**" function is used to create a new database Position. Models can be copied from one Position to another using the Export and Import functions of the Utilities Work Area.

Important:

Models created in one Position are carried forward into new Positions created using "Save As" but are not automatically available to use in other Positions. However, Model information (e.g., structure and resources assigned to categories) can be moved from one Position to another using the Model Export and Import functions of the Utilities Work Area.

FOCIS Models and Their Uses

FOCIS Models are **tools for organizing and summarizing data** according to a hierarchical structure (e.g., multi-level categories) that fulfills a management or analytic need. A trivial example is the organization of data about Equipment. For some purposes, it would be very useful to see information on Equipment where the information on Mission Critical Equipment is separated from Other Mission Equipment, Mobility Equipment, and Support Equipment. A FOCIS user could start by creating a Model that had those major categories. The Model might be as simple as the one shown below:

Equipment Functional Uses

- Firepower
- Mobility Equipment
- Command and Control

Having established these three as the primary categories of interest, FOCIS users would next associate each Equipment Item in the database with one of the three first level categories. Having done that, reports could be created using this Model that show the Fill Rate (percentage of Equipment on hand compared to authorized quantities) of Equipment in each category. Additionally, reports can be developed that show each Unit's Equipment grouped in terms of these three categories. The same Model could then be used with cost data, and the operating costs of each Equipment category could be viewed organized using these categories. Using the same Model, the Equipment Procurement program could be described in terms of how much of the procurement budget was being used to fill needs in each category.

Later, one might decide to enhance the Equipment Functional Uses Model by adding subcategories, as follows:

Equipment Functional Uses

- Firepower
  - Crew-Served Weapons
  - Individual Weapons
- Mobility Equipment

Land Mobility

Air Mobility

Sea Mobility

Command and Control

Land Forces

Air Forces

Sea Forces

Joint

Equipment from the top three categories could then be distributed among the lower level categories and the same types of analyses could be performed as described earlier.

FOCIS users can also create other Models[9] and combine them to create a report. Most countries have thought about their defense program in terms of missions, and a Model could be created using that mission structure with Units assigned to mission categories based on their primary mission. Users could then combine the Equipment Functional Uses and Missions models and be able to see the Equipment status, costs, and other information using these two together. The resulting report would then place the data for all Units in each Mission Category and then, within each Mission Category, further organize the Equipment data using the Equipment Functional Uses categories.

Another common use of FOCIS Models is the development of a Model based on Unit physical location. A Location Model may have a top level based on geographical or political region and a second level that identifies individual bases within each region. A Location Model would be set up to use Units as the basis for assigning Resources to categories. Using this type of Model, any Resource (People, Equipment, or Costs) can be analyzed by Area or base. This Model could also be combined with a Model of Mission Areas or the Equipment Functional Use.

FOCIS allows you to create Models that associate each category with different types of Resources. Each category can be associated with any of the following types of data:

- Units – When a Unit is assigned to a category, any Resource or Cost associated with that Unit is put in that category
- Cost Account – When a Cost Account is assigned to a category, any Cost using this Cost Account is put in that category
- Budget Line Item Costs – When a Budget Line Item is assigned to a category, any Cost of that Line Item is put in that category

[9] There is actually no limit to the number of Models that can be used to create a report.

- Equipment Procurement Costs – When Equipment Procurement Costs are used as the basis for assigning Resources to categories and an Equipment Item is assigned to a category, any Cost incurred for the procurement of that Equipment is put in that category
- WRM Procurement Costs – When WRM Procurement Costs are used as the basis for assigning Resources to categories and a War Reserve item is assigned to a category, any Cost incurred for the procurement of that item is put in that category
- Personnel – When a Personnel Type is assigned to a category, any Cost or Manpower quantity associated with that Personnel Type is put in that category
- Equipment – When an Equipment Item is assigned to a category, any Cost or Equipment quantity associated that Equipment Item is put in that category

Analysis Model Setup

FOCIS has four permanent Models (they initially exist as Model names only). These Models are:

- Program Structure
- Mission Areas
- Locations
- Budget

Additional Models are created as needed using the Analysis Model Setup window. Start by selecting the Setup Data Work Area in any of the ways shown in Figure 6-1.

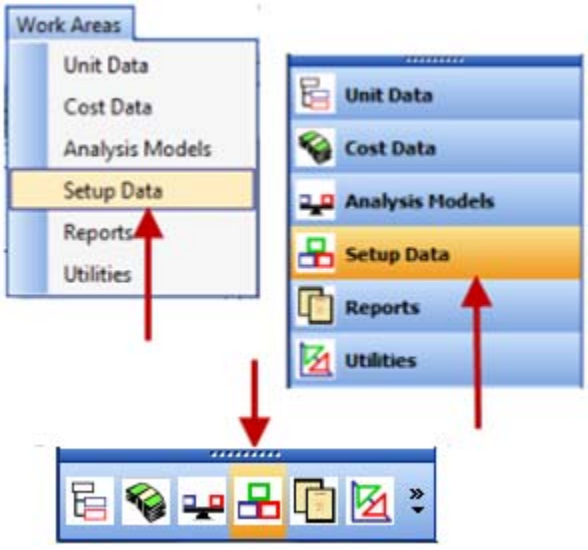


Figure 6-1. Accessing the Setup Data Work Area

When the Setup Data Work Area opens, the user must click on **Analysis Models** on the menu, as shown in Figure 6-2, to open the Analysis Models Setup window, shown in Figure 6-3. The upper section shows the existing Models and the display characteristics of each. The lower left shows a generic Model structure with the display characteristics of the selected Model. The lower right shows the Content Areas that can be assigned to categories in this Model.

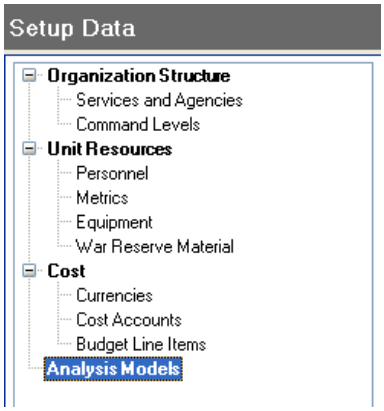


Figure 6-2. Setup Data Menu

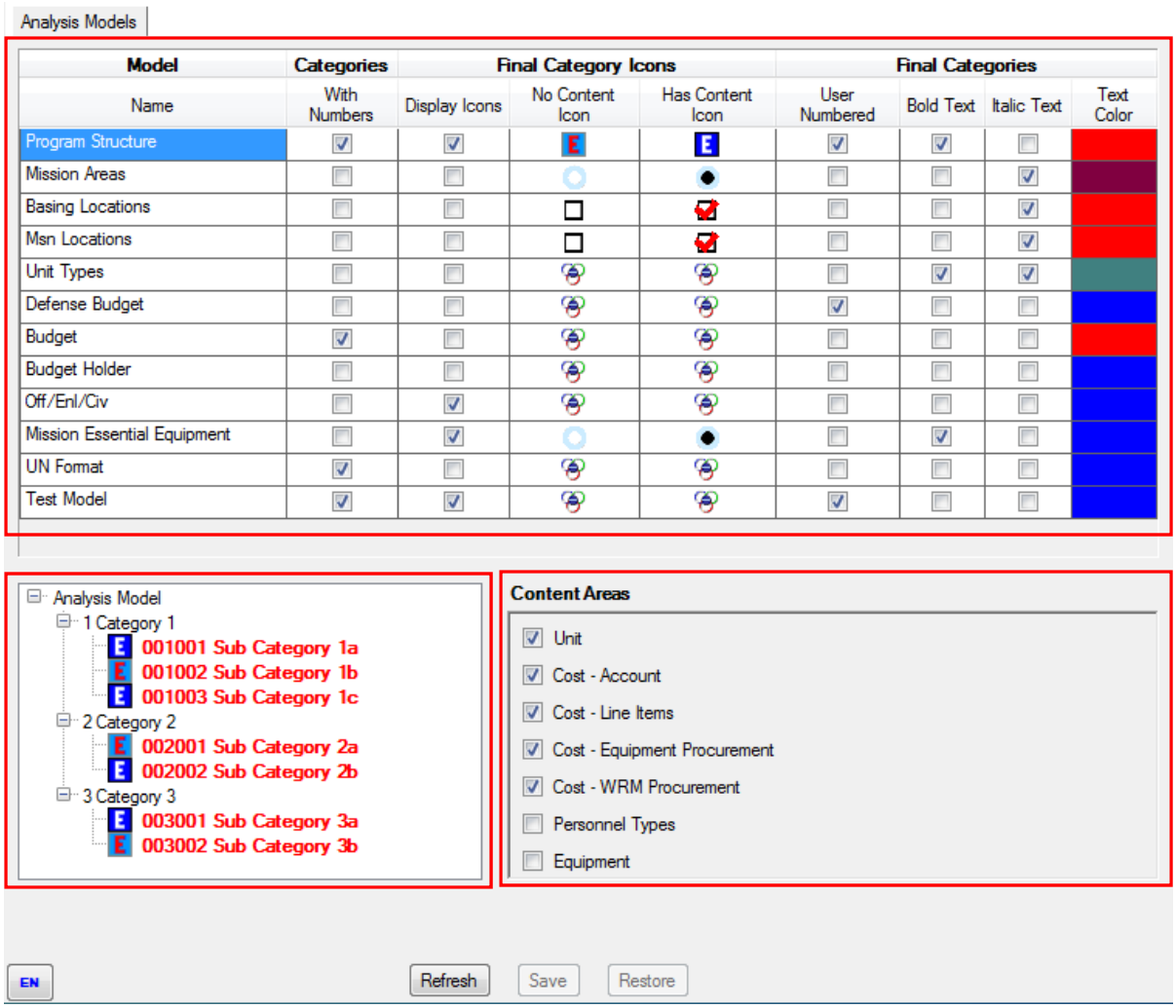


Figure 6-3. Analysis Models Setup Window

To add a new Model, copy an existing Model, delete a Model, or reorder the list of Models, right-click anywhere in the list of Model names. The shortcut menu for the Analysis Models Setup window, shown in Figure 6-4, appears.

The Select Icon option is only enabled when the right-click originates in either of the columns where an icon is selected.

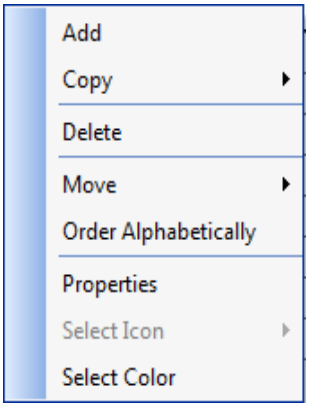


Figure 6-4. Shortcut Menu Options

Adding Models

To add a new Model, click the **Add** option. This will add a new row to the list with an initial Model name of "[New]" in red text, as shown in Figure 6-5.

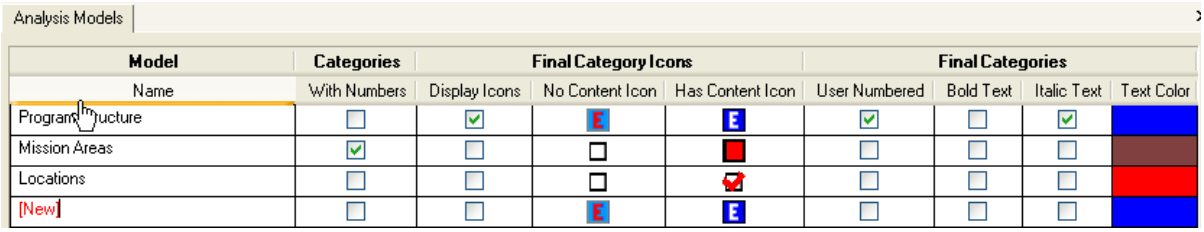


Figure 6-5. List of Analysis Models with [New] Entry

Click on the "[New]" entry and enter a name for the Model. You can then adjust the default characteristics and set the Content Areas.

Model Display Characteristics

Users can modify the display of Models to suit their preferences. The following changes can be made:

- Category Numbering
- User-Numbered Characteristic
- Icon Characteristics
- Font Characteristics

Category Numbering

Models can be set up so that they either use or do not use numbers with each category. Figure 6-6 shows the Mission Areas Model with and without numbers. When the display is set to include numbers and "User-Numbered" is not checked, category numbers are assigned automatically based on the category order and are revised if the category order is changed.

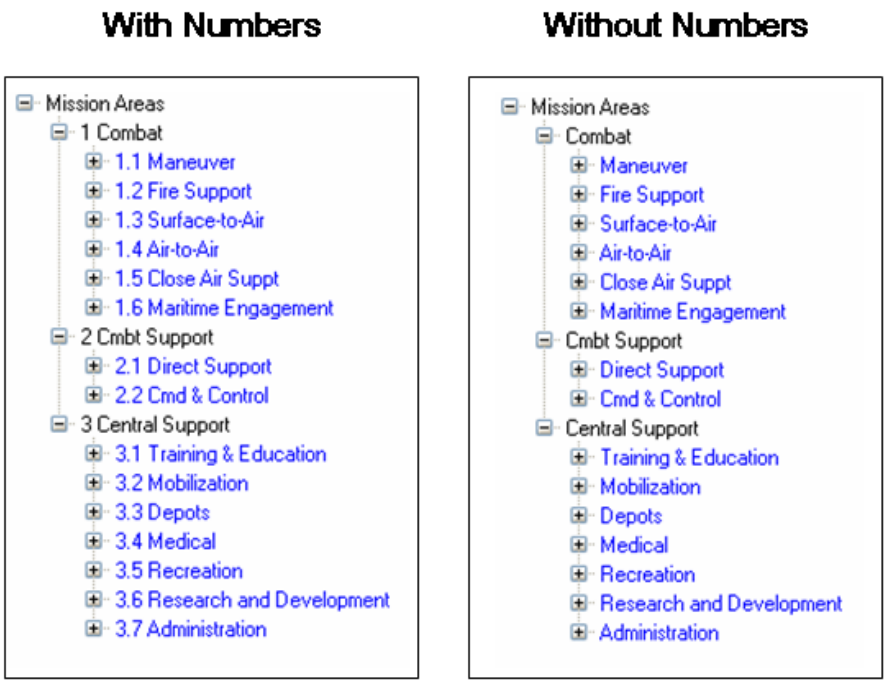


Figure 6-6. Mission Areas Model With and Without Numbers

User-Numbered Characteristic

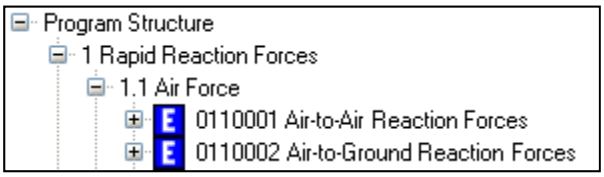


Figure 6-7. Elements with User-Numbered Characteristic

One use of FOCIS Models is the creation of a Program Structure. Some Program Structures refer to the lowest levels in the structure as Program Elements (PE) and PEs sometimes use a numbering system that is not necessarily sequential and is permanently assigned even when the order of the categories in which they appear changes. When the User-Numbered characteristic is checked, the numbers of the lowest level entries are entered when creating or editing a category. Higher order categories are automatically numbered. An example of a portion of a Program Structure with final categories as elements is shown in Figure 6-7. The Element number "0110001" is chosen and entered by users at the same time they enter or edit the category name.

Icon Characteristics

Content (e.g., Units, Cost Accounts, Equipment Items) can only be assigned to the categories that are lowest in each branch. If icons are used with Final Categories, they can be set so that categories with assigned content look different from categories that do not yet have content. No icons are displayed unless the Display Icon check box is checked.

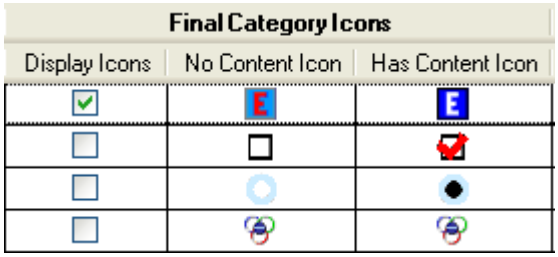


Figure 6-8. Final Category Icons Characteristics

For example, for the Model whose icons are set as shown in the first line in Figure 6-8, the icon is used in final categories that have assigned content and the icon is used in final categories with no content. In the example in Figure 6-9, the first and third categories have content assigned.

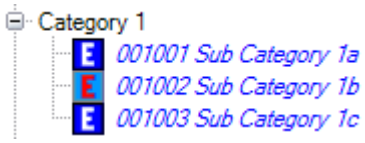


Figure 6-9. Example of Categories With and Without Content

When a new Model is created, two default icons are assigned. These can be changed by choosing either one of the stored existing icons or a new icon from a file, using the shortcut menu.

Icons only show for the lowest level in any branch and indicate where content can be assigned. If the "No Content Icon" and "Has Content Icon" choices are different, the icons can also indicate which categories have content assigned. Icons are changed by right-clicking on the icon to be changed (Figure 6-10).

Figure 6-11 shows two options where the Display Icons characteristic was applied.

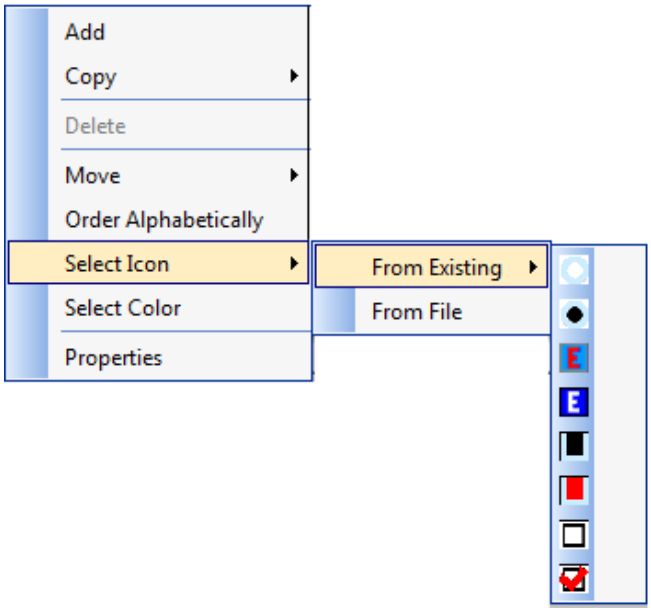


Figure 6-10. Select Icon Option on Shortcut Menu

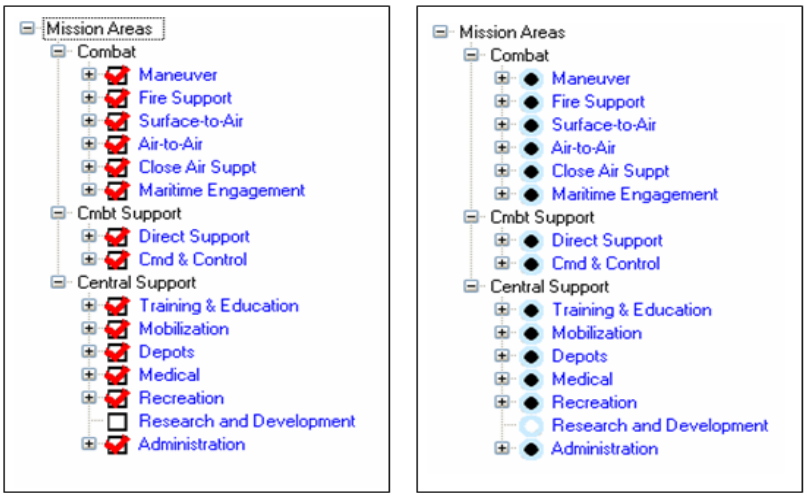


Figure 6-11. Two Examples of Displayed Icons

If the "With Numbers" display characteristic is checked, you can choose whether the numbers shown are automatically generated or if they are user-entered. To use numbers you enter for Final Categories, select the check box in the User Numbered column, as shown in Figure 6-12.

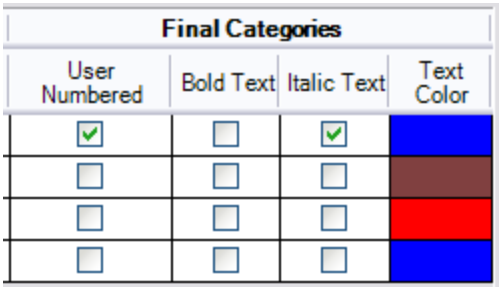


Figure 6-12. Final Categories Characteristics

Font Characteristics

The Final Category font style (bold/ italicized) can be changed by selecting the appropriate box(es) shown in Figure 6-12. Color is set by selecting the box in the Text Color column, which opens a color palette window (Figure 6-13).

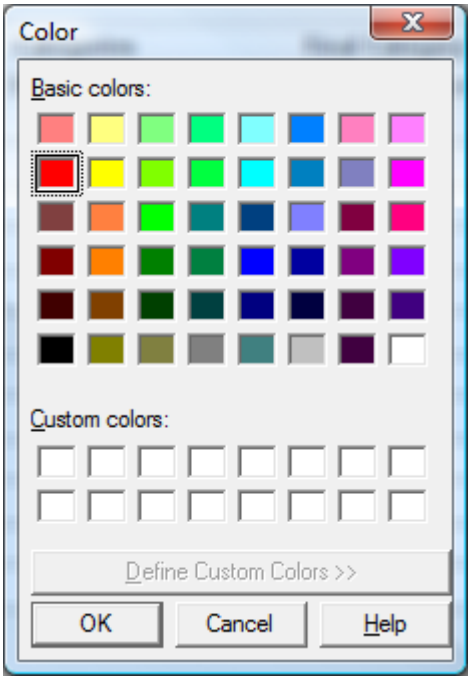


Figure 6-13. Color Palette Window

Some sample text settings are shown in Figure 6-14.

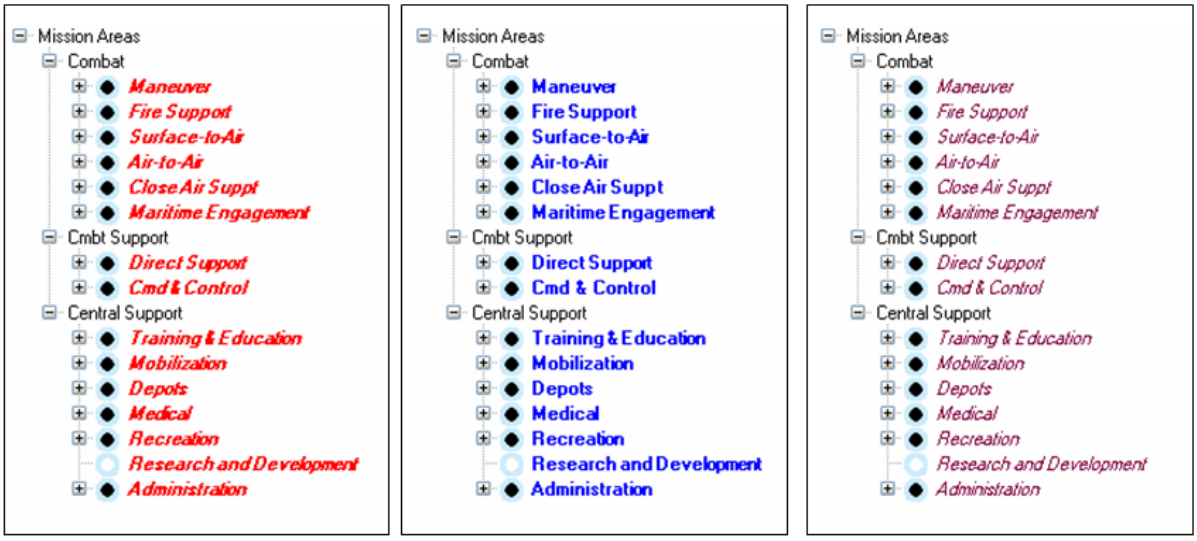


Figure 6-14. Sample Text Settings

Content Areas

Models are useful because different types of data can be "assigned to" or "associated with" each Final Category. The following types of data can be used to make these assignments.

> **Important:**
>
> The order, top to bottom, is important when multiple assignment rules are used in a single Model.

Content Area	When Used, Associates with the Category
Unit	All resources and costs of a Unit
Personnel Types	All quantities and costs of a specific Personnel Type
Equipment	All quantities and costs of a specific Equipment Item
Cost – Account[1]	All costs having a specific Cost Account
Cost – Line Items	All costs for a specific Budget Line Item
Cost – Equipment Procurement[1]	All costs to buy a specific Equipment Item
Cost – WRM Procurement[1]	All costs to buy a specific WRM Item

Note 1: When used in a Model, this assignment is made in combination with a Service or Agency. This allows you to assign Cost, Equipment procurement and WRM procurement to categories depending on Service, if desired.

You can create Models using multiple Content Areas such as "Unit" and "Cost – Account." Since all cost data can be related to both Units and Cost Accounts, Models created to use both the "Unit" and "Cost – Account" Content Areas may appear to create an ambiguous situation. This is a powerful feature but one that is hard to explain without a specific example. The explanation and an example are in the "Using Multiple Content Areas" section of this chapter beginning on page 6-33.

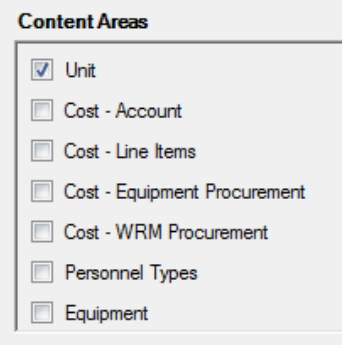


Figure 6-15. Content Areas ("Unit" Selected)

The content assigned to a Model is shown in the lower right part of the Analysis Models Setup window. (The example in Figure 6-15 shows the Unit Content Area selected. Any combination of the Content Areas may be included in any Model.)

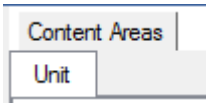


Figure 6-16. Unit Tab on Content Areas Window

When in the Analysis Models Work Area, the Content Areas window will have different tabs depending on the Model being used. The Unit tab is shown in Figure 6-16.

Copying Models

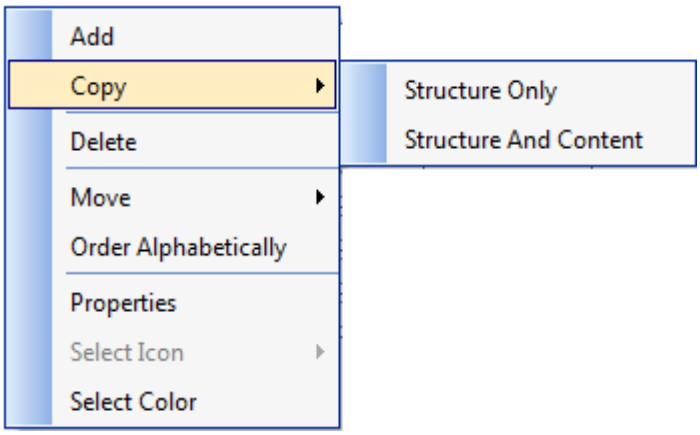


Figure 6-17. Copy Sub-Options on Shortcut Menu

There are times that an existing Model has many of the characteristics desired in another Model, and it is easier to create the new Model starting with a copy of an existing one. FOCIS has the ability to copy a Model in two ways, depending on which sub-option you select (Figure 6-17). Its structure can be copied to create a new Model or its structure and all assigned content can be copied at one time. When you right-click on a Model name in the Analysis Models window (Setup Data Work Area), and select the **Copy** command from the shortcut menu, a new Model name of "Copy of …" is added to the list of Models. Simply change the name and adjust any characteristics as desired.

Deleting Models

Any Model can be removed from a FOCIS Position by choosing the **Delete** option on the shortcut menu, with the exception of Program Structure, Mission Areas, and Locations, which are permanently part of FOCIS. The names of the permanent Models can be edited.

Reordering the List of Models

The order in which Models are listed can be changed using drag-and-drop or the shortcut menu options of **Move > Up/Down/First/Last** or **Order alphabetically**.

Working with Analysis Models

Analysis Model Categories

After a Model is created in the Analysis Models Setup window, the next step is to open the Analysis Models Work Area so that you can create the categories that will define the Model's structure. The Analysis Models Work Area can be opened in any of the ways shown in Figure 6-18.

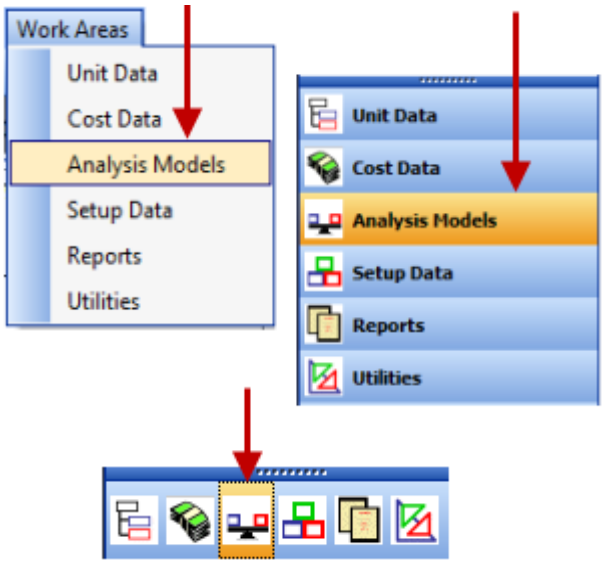


Figure 6-18. Accessing the Analysis Models Work Area

The Analysis Models Work Area window looks similar to the one shown in Figure 6-19. The left pane of the window is used to create and edit the category structure (Current Model Structure). The bottom of the left pane has a drop-down field for selecting the Model you want to work with (Model in Use). The right pane of the window has a tab for each Content Area assigned to the Model that is in use.

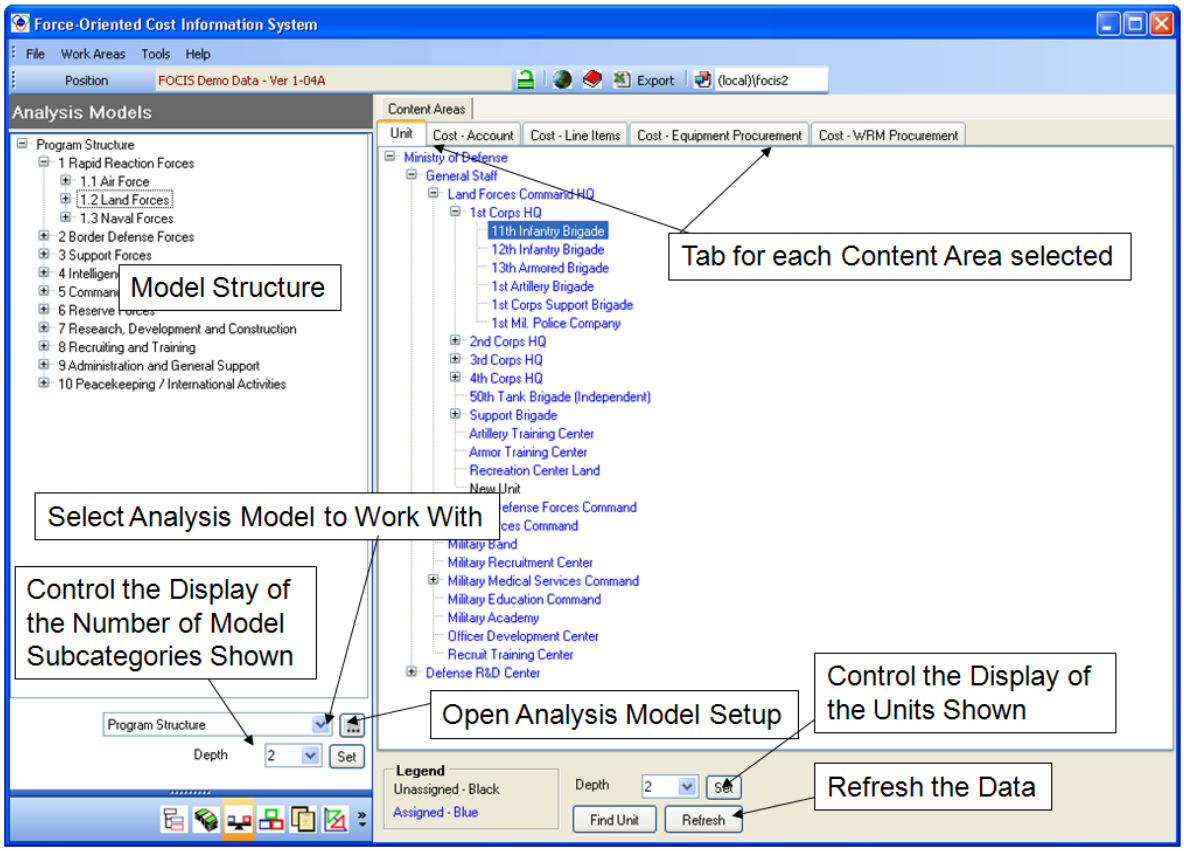


Figure 6-19. Analysis Models Work Area Window

The Analysis Model window has a **Refresh** button, which is useful when using FOCIS on a network, as other users may be working with the same Model as you. FOCIS only populates the Model information when you select a Model to work with (including when you first enter the Analysis Models Work Area). Other users may make changes to the Model you are using that conflict with changes you want to make. FOCIS checks to see if any such changes have been made prior to allowing your changes to be made in the actual database. When there are conflicts, FOCIS will display a warning message and ask you to **Refresh** your display, which is accomplished by clicking the **Refresh** button. You do not need to use this button unless prompted to do so.

When a new Model is created, the Model structure contains only one top category. To illustrate the techniques you can use to create Models, we will start with a newly created Model and build one that represents the national budget structure to two levels of detail. We could start directly in the Analysis Models Work Area and use the ellipsis icon to open the Analysis Models Setup window or switch to the Setup Data Work Area and create the new Model there. The same window will open, regardless of which method is used.

While in the Setup window, right-click and select the **Add** option to create a new Model (Defense Budget) with one Content Area (Cost – Account).

After creating the Model, return to the Analysis Models Work Area and select the new Model in the drop-down list at the bottom of the left pane (Figure 6-20).

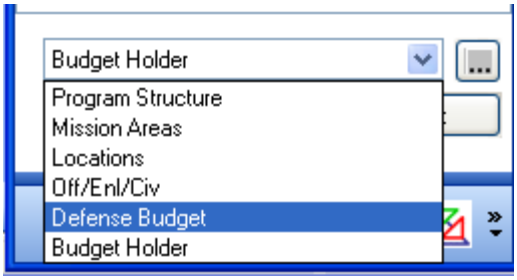


Figure 6-20. Drop-down Model Field

After making this selection, the Work Area will show a single entry in the Defense Budget Model structure and one Content Area tab for "Cost – Account" as shown in Figure 6-21. (The "Assigning Content to Categories" section of this chapter, on page 6-22, describes how to assign content to the structure.)

Figure 6-21. Initial Structure of Defense Budget Model

Adding Categories

To add a category, right-click on the Defense Budget label in the left pane to display the shortcut menu options, shown in Figure 6-22.

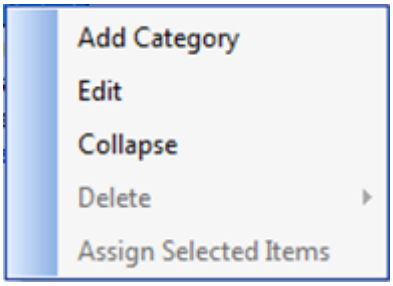


Figure 6-22. Analysis Models Work Area Shortcut Menu Options

When you click on **Add Category**, the window that opens will vary depending on whether or not the Model has been set up with the User Numbered characteristic set to true.

If the "User-Numbered" characteristic is not selected, the window will look like Figure 6-23.

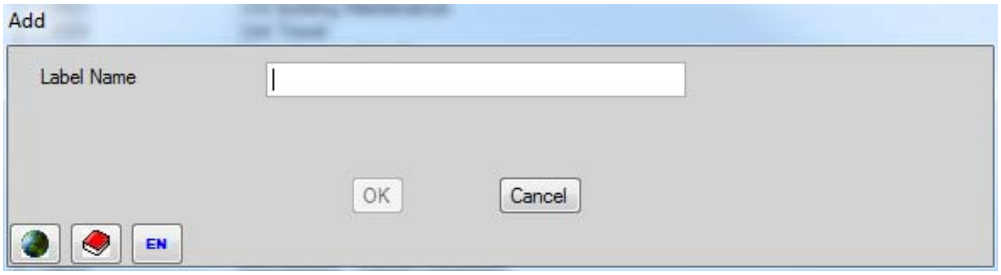


Figure 6-23. Add Window ("User Numbered" Not Selected)

If “User-Numbered” characteristic is selected, the Add window will look like Figure 6-24.

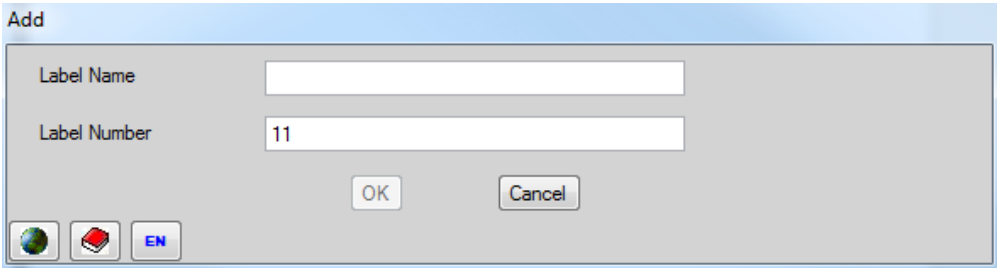


Figure 6-24. Add Window (“User Numbered” Selected)

After adding a Personnel Category, the structure is now as shown in Figure 6-25.

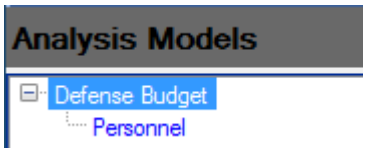


Figure 6-25. First New Level Added

If you now right-click on the Personnel label and choose **Add Category** again, you can add a category under Personnel such as “Pay and Salaries.” If you right-click one more time on Personnel, you can add another category such as “Benefits” (Figure 6-26).

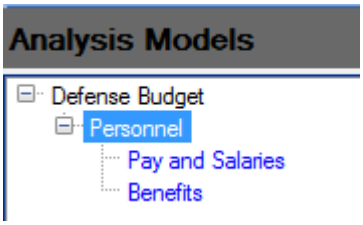


Figure 6-26. Second New Level Added

Categories are added below the category the mouse is pointing to when you right-click. Up to six levels of categories can be added below the top level. Furthermore, the number of levels in each branch can be different. For example, if you wanted to break out Pay and Salaries into Military and Civilian subcategories, you could do so, starting by right-clicking on “Pay and Salaries” (Figure 6-27).

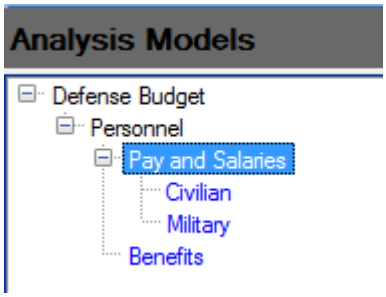


Figure 6-27. Third New Level Added

Editing Category Names

Clicking **Edit** on the shortcut menu opens the Edit window (Figure 6-28), allowing you to make changes to the category name.

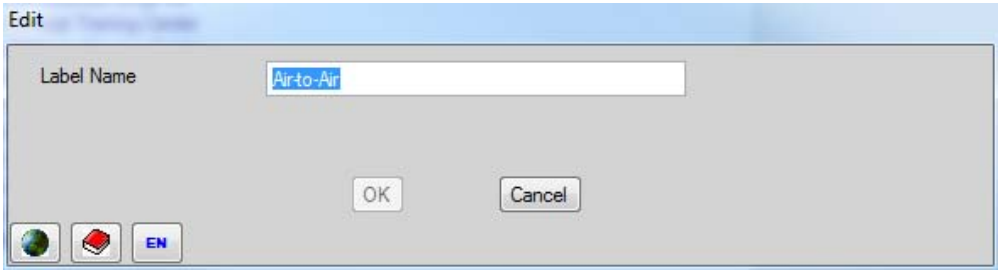


Figure 6-28. Edit Window

Controlling the Category Display Depth

The category display on the Analysis Models Work Area window when initially selecting the desired Model is controlled by the Depth field at the bottom of the left pane, as shown in Figure 6-29. To change the category display, select the desired depth (Figure 6-30) and then click the **Set** button.

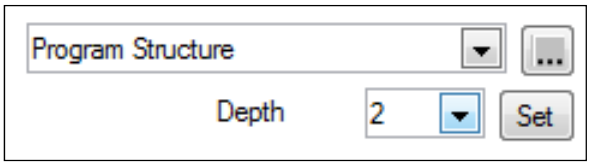


Figure 6-29. Initial Display Depth

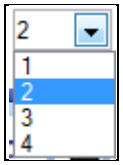


Figure 6-30. Depth Field Drop-down

Note: The highest number in the drop-down list is controlled by the number of sub-categories you set up when this Model was first created.

Figure 6-31 shows the Program Structure Model with the depth set at **2** and at **4**.

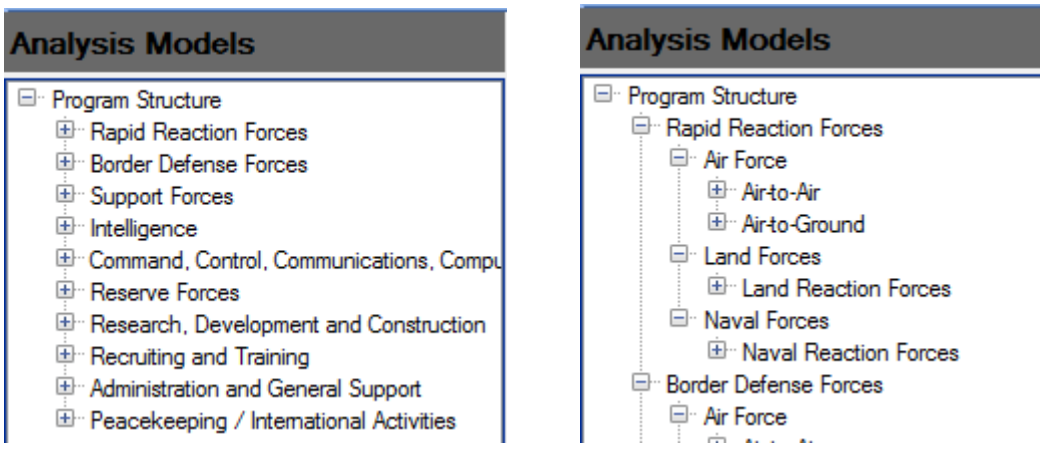


Figure 6-31. Depth Selections of "2" (Left) and "4" (Right)

Use the expand (⊞) and collapse (⊟) features of Windows to adjust the display as desired.

Collapsing the Category Display

You can use the **Collapse** option on the shortcut menu (Figure 6-32) or the minus sign (⊟) to collapse any portion of the category display as desired.

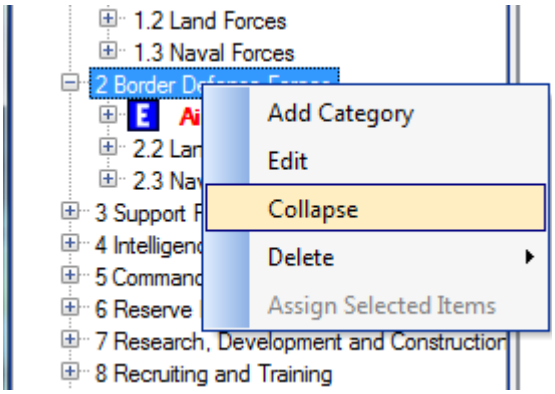


Figure 6-32. Collapse Option on Shortcut Menu

Rearranging Categories

You can rearrange the order of the category structure after categories are created. For example, if you wanted to reverse the order of the Military and Civilian categories, you could click and hold down the left mouse button on the Military label and then drag until a solid bar shows between "Pay and Salaries" and "Civilian" (Figure 6-33). When the mouse pointer is in this position, releasing the mouse will drop the Military category above the Civilian category (Figure 6-34).

Move category until insert bar shows here:

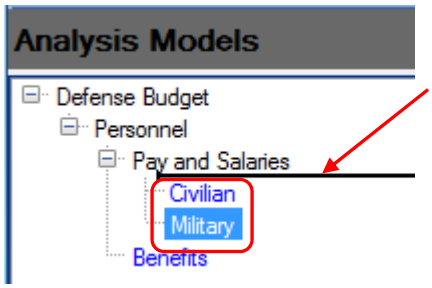


Figure 6-33. Original Order Showing Insert Bar

After releasing the mouse, this is the new order:

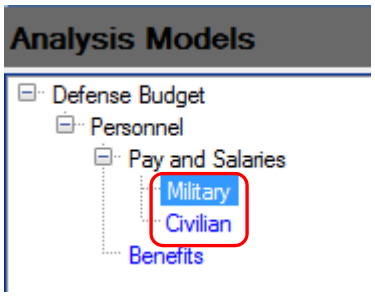


Figure 6-34. New Order After Rearranging

You can also change the level of an existing category by dragging and dropping it. If you wanted Benefits to be a category under Pay and Salaries, you would click and hold down the left mouse button on the Benefits label, then drag it until it was on top of the Pay and Salaries category. The resulting structure is shown on the left in Figure 6-35.

You can also move an existing category to a higher level. Again, click on the Benefits category and drag it on top of the Personnel Category (in the middle of Figure 6-35). You can

even make Benefits a category under Civilian by dragging and dropping Benefits on the top of Civilian (on the right in Figure 6-35).

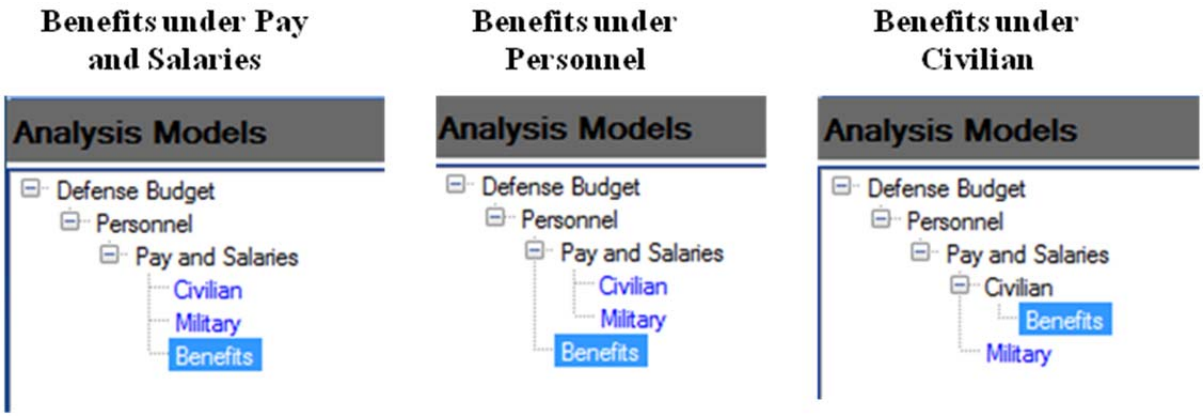


Figure 6-35. Three Examples of Drag-and-Drop Restructuring

These moves may not be possible after content is assigned to some of the categories.

FOCIS enforces one simple rule about categories and content: **Content can only be assigned at the lowest level of any branch.**

As a result, a branch midway in a multi-level structure cannot have both content and a lower level category. FOCIS enforces this rule when new categories are added or attempts are made to rearrange the structure using drag-and-drop. In the example on the left in Figure 6-36, where Benefits is a subcategory of Personnel, it can be moved to be a subcategory of Pay and Salaries (on the right in the figure) since Pay and Salaries does not itself have content – only subcategories.

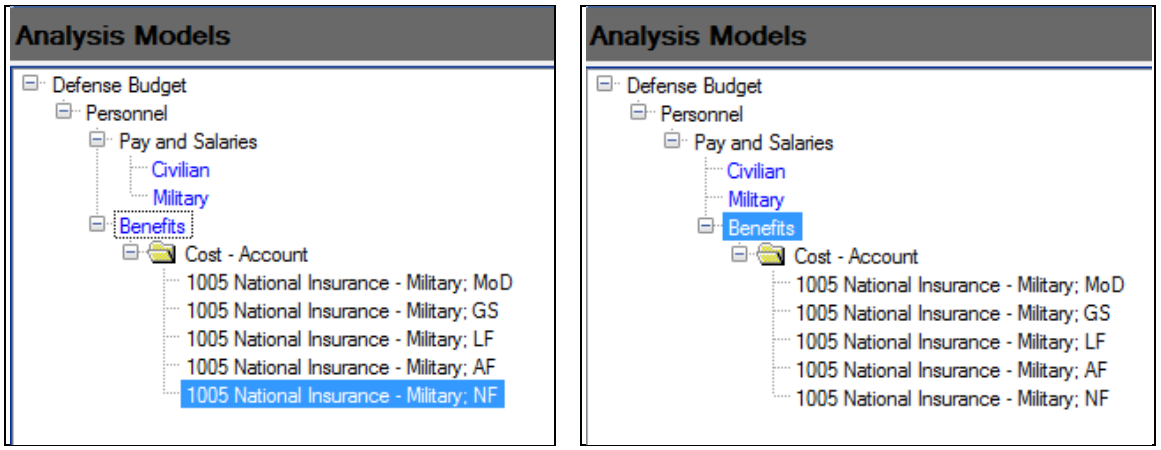


Figure 6-36. Movement of Subcategory from One Level to Another

Deleting Categories

Categories can be deleted by right-clicking on the category to be deleted and choosing **Delete** from the shortcut menu, as shown in Figure 6-37. If the category has subcategories, they can all be deleted at one time.

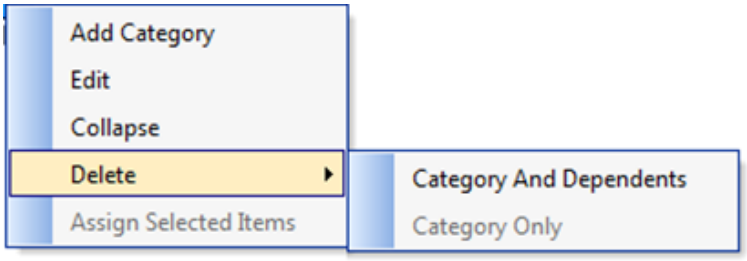


Figure 6-37. Delete Options on Shortcut Menu

Alternatively, if **Delete** is selected after right-clicking on a category with subcategories, it is possible to delete only the selected category, thereby moving all lower level categories up one level. This type of delete will be done ONLY IF the basic rule that all content must be assigned to the lowest level is not violated.

Analysis Model Category Content

An Analysis Model structure by itself makes no contribution to analyzing defense Resource data. Until Resource data can be associated with the categories, an Analysis Model is not useful.

The Analysis Models Work Area window (Figure 6-38) supports the development of a Model structure and assignment of content. The description of how content is assigned to categories will be done using the Program Structure Model that is part of the FOCIS Sample Position provided with every FOCIS installation.

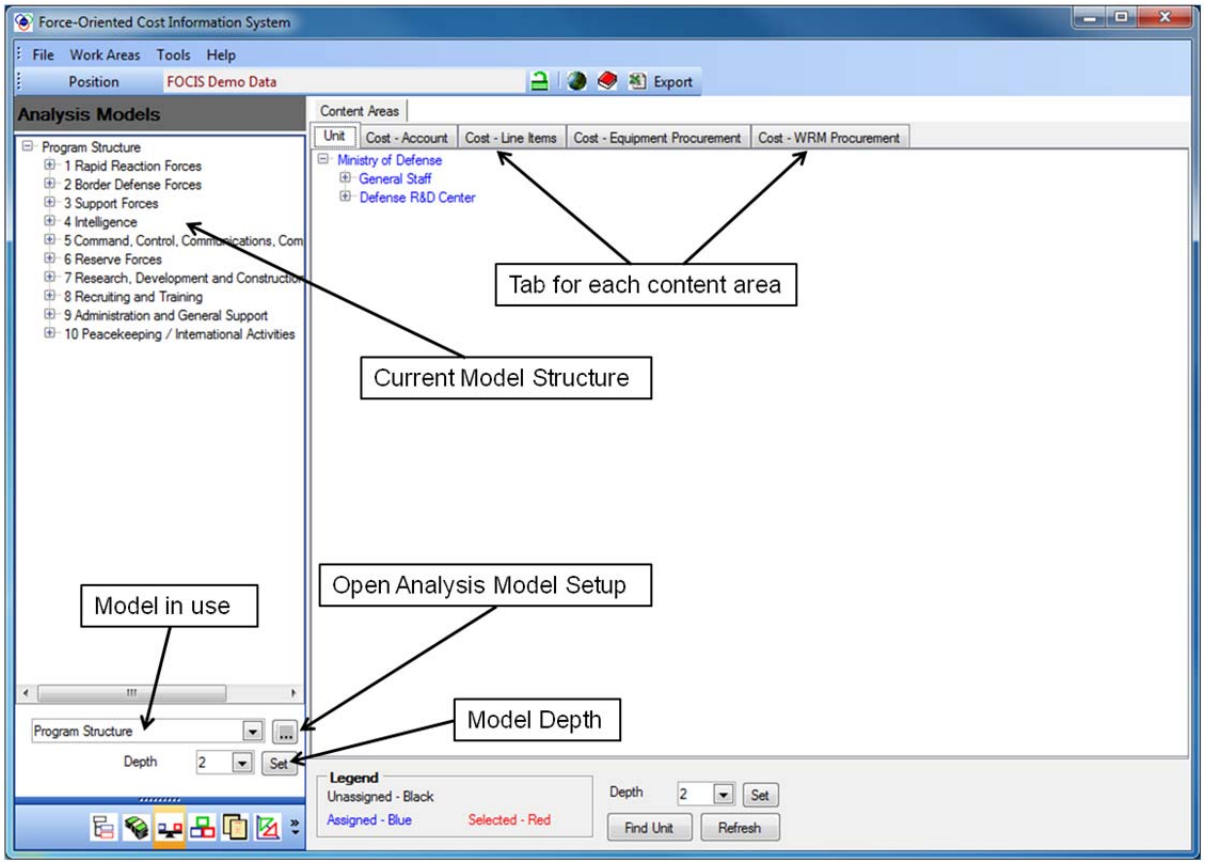


Figure 6-38. Analysis Models Work Area Window

Assigning Content to Categories

Resources can be linked to a category using any of the Content Areas described earlier. This explanation of how to assign content is based on using the Unit Content Area. The same procedures apply to other Content Areas.

Units (or other content) are assigned to a category by selecting the Unit tab on the right side of the Work Area, finding the Unit in the Unit organization tree, then dragging and dropping it on a category that can accept content (those at the end of a branch).

In the case of the Unit Content Area, several tools are available in the bottom portion of the right pane of the window, as shown in Figure 6-39. The **Legend** box describes what the various colors of text mean. The **Depth** field located there is similar to the Depth field under the category list in the left pane. While the one in the left pane controls the initial depth of the category list display, the one in the right pane controls the initial depth of the Unit tree structure display. You can change the setting by selecting a number and clicking the **Set** button.

Figure 6-39. Legend and Depth Field in Right Pane

The **Find Unit** button allows you to find Units based upon their Name, Equipment, Analysis Model, or WRM Equipment. This is particularly convenient in a long list of Units and is fully explained in Chapter 3 under the heading of "Finding a Unit."

The **Depth** and **Find Unit** features are only active when the Unit Content Area is included in the Analysis Model.

The **Refresh** button is available with all Content Areas and is used in a networking environment to ensure that your display has the latest version of the list appropriate to that Content Area.

Figure 6-40 shows a Program Structure with three final categories showing (the Model display properties are set to show final categories in red with icons). In the right pane, a portion of the Unit organization tree shows with some Unit names in blue and some in black text. By using the legend, you can see that the Units in blue have already been assigned to a category and those in black have not yet been assigned.

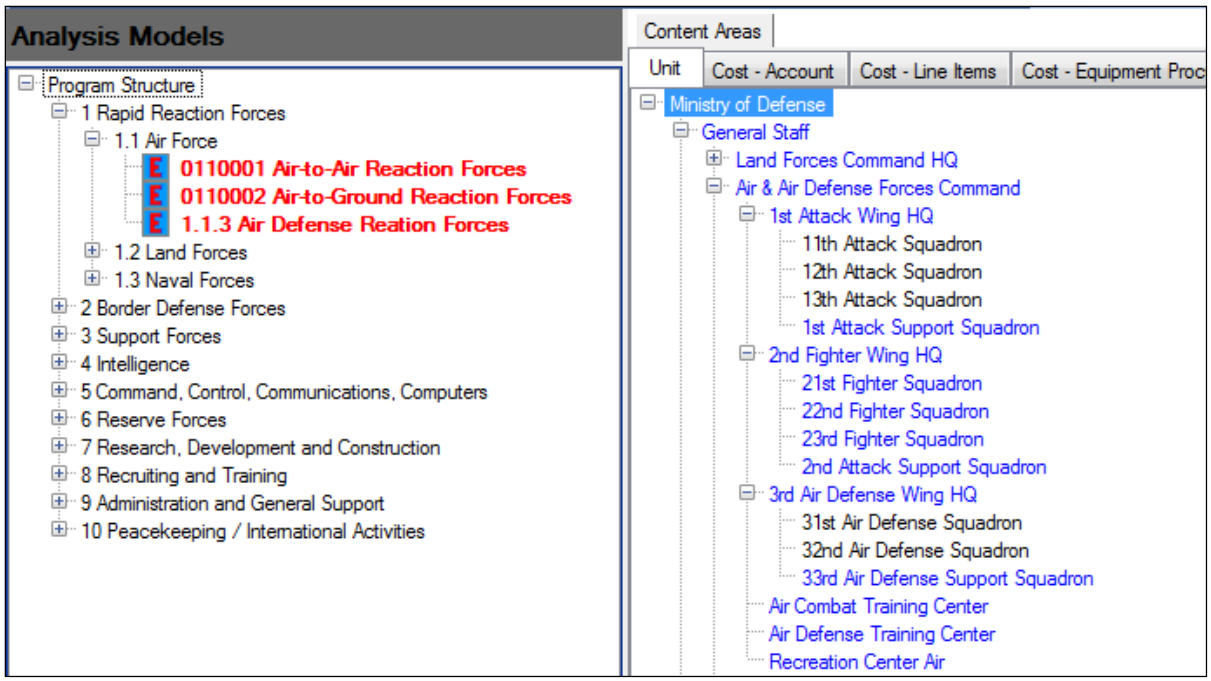


Figure 6-40. Icon and Text Color Characteristic Indications

Clicking on any Unit name in blue text, such as the 2nd Fighter Wing HQ in Figure 6-40, will cause the Model structure display in the left pane to expand to show the category to which that Unit is assigned. See Figure 6-41.

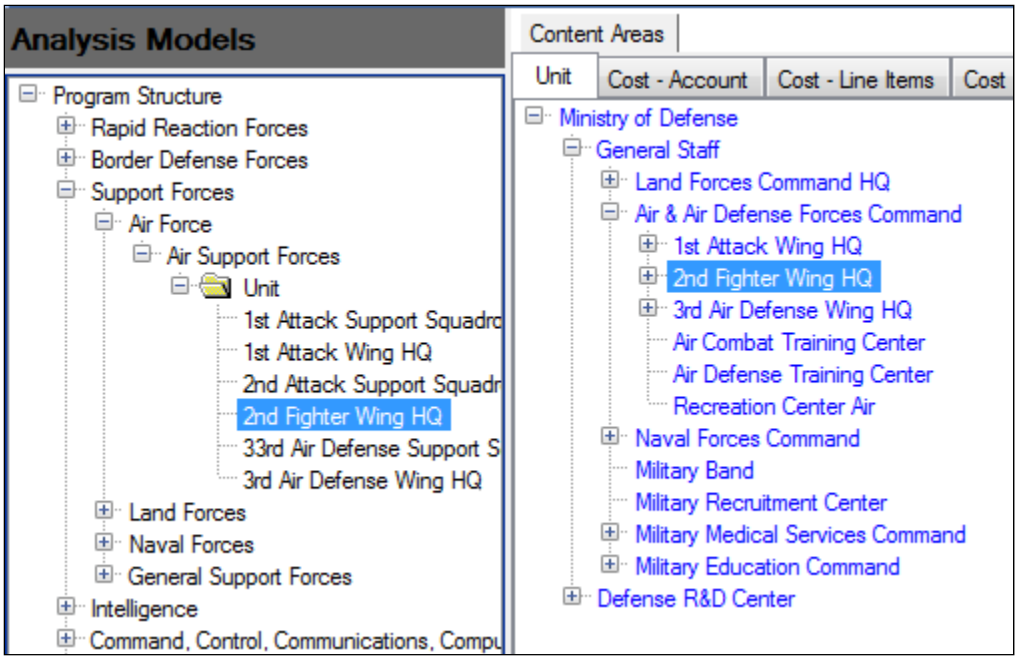


Figure 6-41. Unit-to-Category Assignment Display

To assign a Unit to a category, expand the Unit structure tree so it shows the Unit. (Only Units shown in black have not yet been assigned.) Click the left mouse button to select the Unit name, and then, holding down the left mouse button, drag the mouse pointer over the category list. When it is over the category to which you want to assign the Unit, release the mouse button (Figure 6-42).

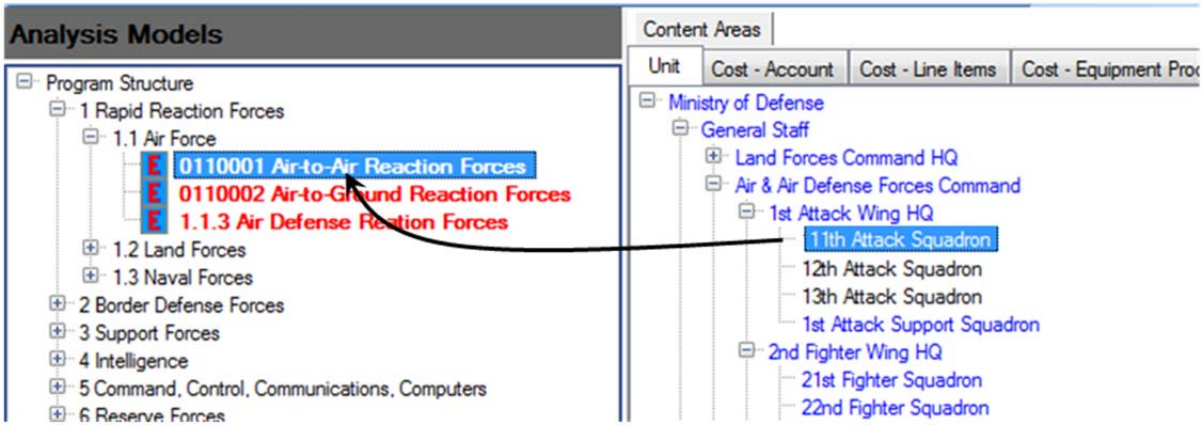


Figure 6-42. Assignment of Unit to Category

After dropping the Unit on a category, FOCIS creates a Unit folder in the category structure and shows all Units assigned to the category under that Unit folder. At the same time, the

Unit's name is changed to display in blue in the Content Area lists, confirming that it has been assigned to a category (Figure 6-43).

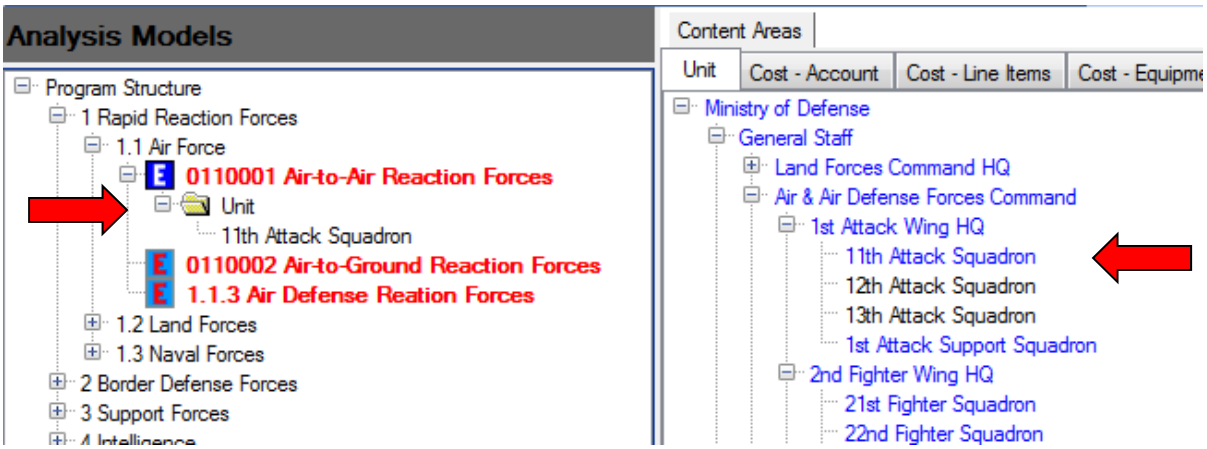


Figure 6-43. Category and Unit Lists after Unit Assignment

When selecting Units, it is possible to select more than one Unit at a time for assignment to a category. To do this, select Units while holding down the **Ctrl** key. Those Unit names will turn to red text. Then simply drag one of the names to the appropriate category and all selected Units will be assigned. The sequence of steps, shown in Figure 6-44 through Figure 6-46, is as follows.

- Initially, unassigned Units are shown in black text (Figure 6-44).

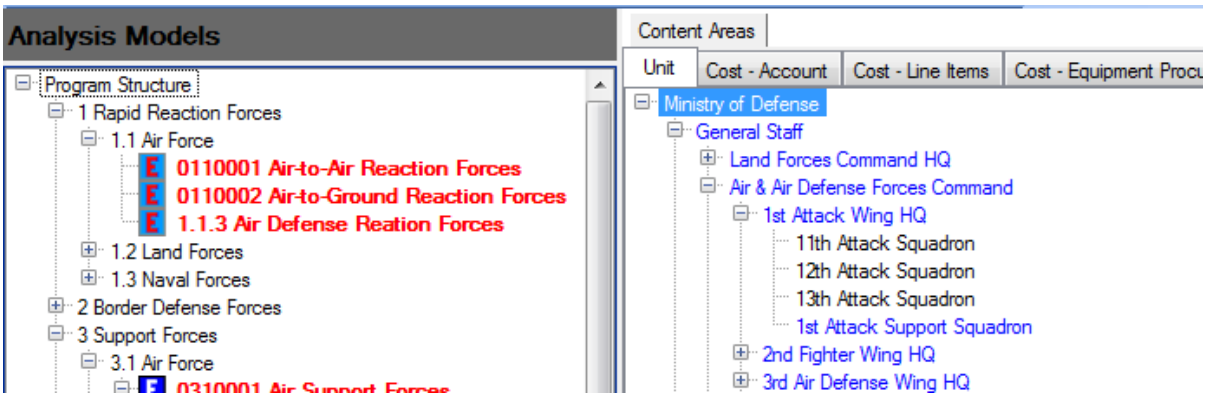


Figure 6-44. Unassigned Units Shown in Black

- When you hold down the **Ctrl** key and click individually on three Units to select them, the Unit names change to red text (Figure 6-45).

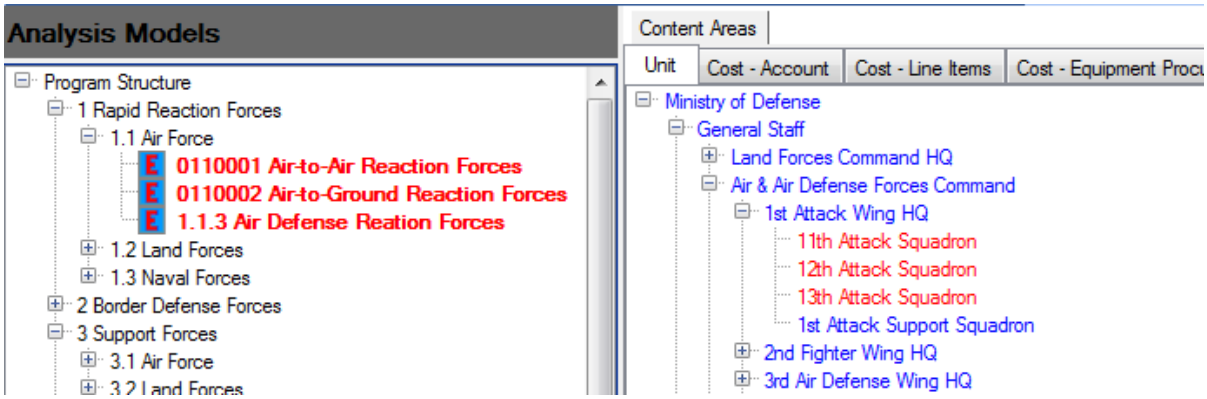


Figure 6-45. Selected Units Shown in Red

- The last Unit selected is dragged to the category "0110001 Air-to-Air Reaction Forces". A Unit folder is created in the category structure and the three Unit names are shown within that folder. At the same time, the three names on the Unit Content Area tab change from red to blue text, showing that they have been assigned to a category (Figure 6-46).

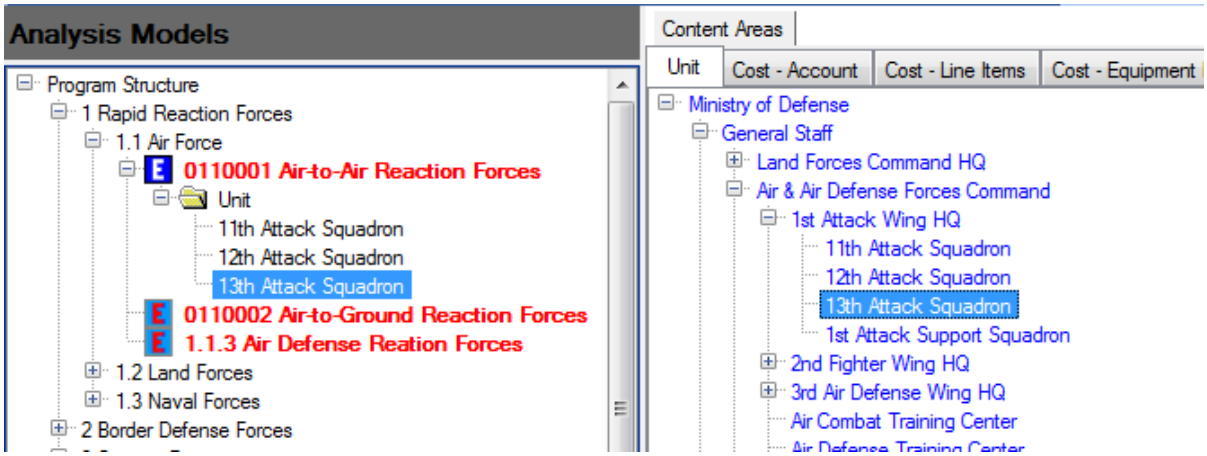


Figure 6-46. New Units in Category Structure and Selected Units Shown in Blue

Another method to select and assign Units is as follows:

- If a Unit with many subordinates is to be assigned to a category, right-click on the Unit name to display the shortcut menu shown in Figure 6-47.

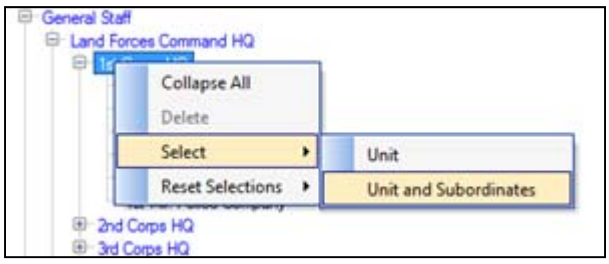


Figure 6-47. Right Pane Shortcut Menu

- By choosing either the **Unit** or **Unit and Subordinates** sub-option, the selected Unit is available for assignment by selecting the appropriate category in the left pane and right-clicking to activate the menu shown in Figure 6-48.

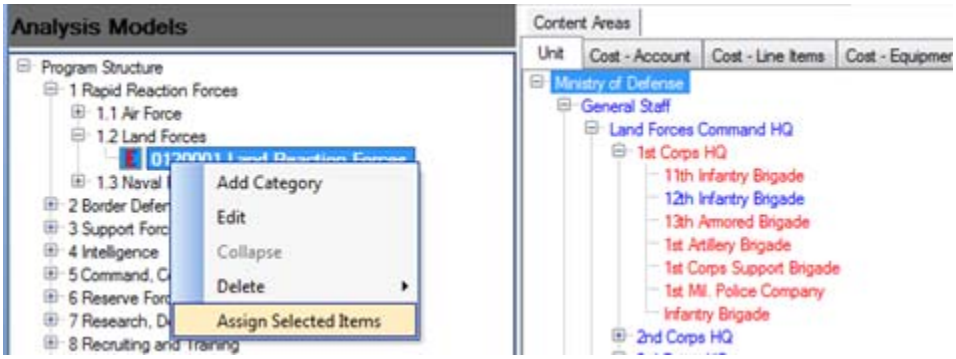


Figure 6-48. Left Pane Shortcut Menu

- After selecting **Assign Selected Items**, the category structure looks like that shown in Figure 6-49, and all of the Unit names change to blue text on the Unit tree in the right pane. Notice that only those Units not already assigned were selected and are now assigned to the desired category.

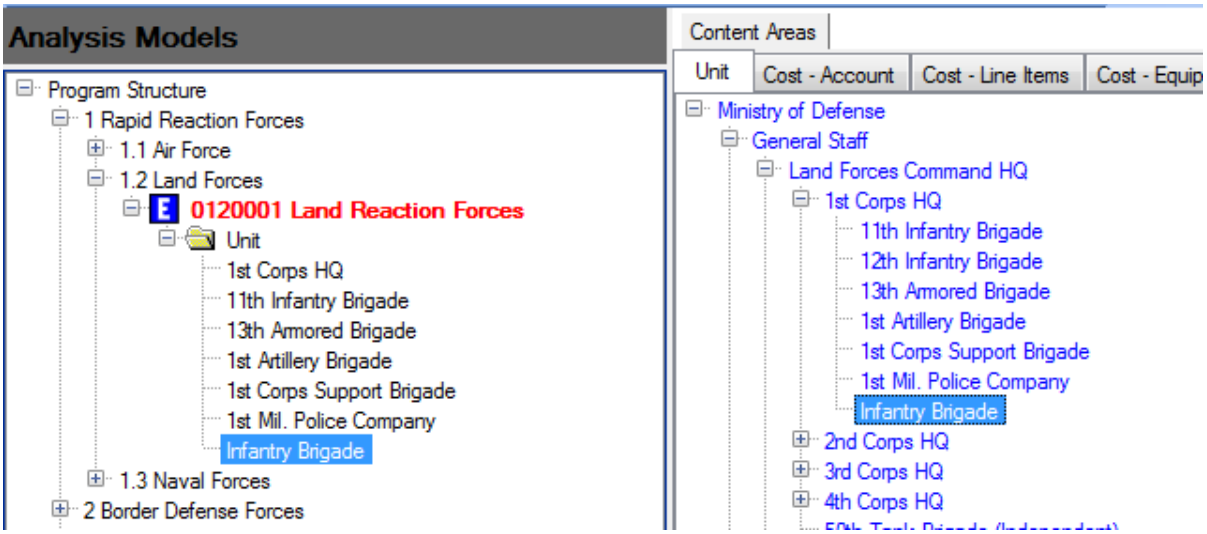


Figure 6-49. Changes Displayed after Unit Assignment

Content Assignments Based On Service or Agency

Three of the Content Areas allow assignments based on the content characteristic (such as cost) and a Service or Agency. These Content Areas are:

- Cost – Account
- Cost – Equipment Procurement
- Cost – WRM Procurement

In each case, the Content Area tab has both a basis for capturing certain types of cost data and an ability to make content assignments using that data type and a Service or Agency. For example, if the "Cost – Account" Content Area tab is being used and there is a Fuel Cost Account, you could assign fuel costs incurred in Army Units to a category such as Army Logistics Center and fuel for Air Force Units to a different category such as Air Force Logistics Center. The Service field is located at the top and includes an option to assign **All** Services and Agencies to a category at one time (a single drag-and-drop action) (Figure 6-50).

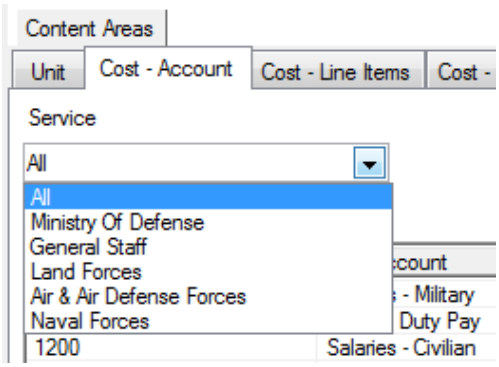


Figure 6-50. "All" Option in Service Field

A Service field also appears on the Cost – Equipment Procurement and Cost – WRM Procurement tabs.

Changing Content Assignments

If you want to change the category to which a Unit has been assigned, click on that Unit's name within the Unit folder in the category structure where it is now assigned and drag it to a new category. When the cursor displays with a dotted rectangle (⬚) as shown in Figure 6-51, a "drop" action will change the category.

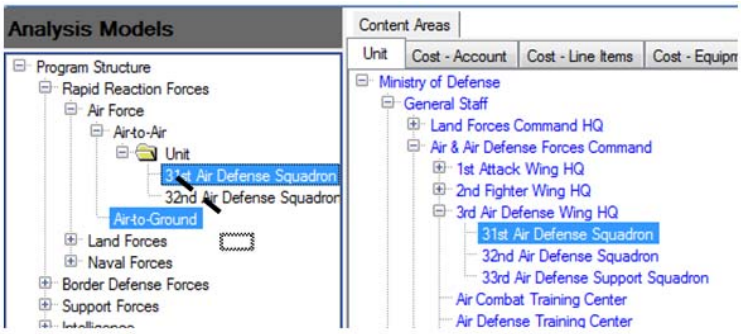


Figure 6-51. Drag-and-Drop Showing "Dotted Rectangle"

Note: Any attempt to drag a Unit (or any other content) to a category that is not at the lowest point in a branch of the structure tree will cause the cursor to display a ⃠ symbol, as shown in Figure 6-52.

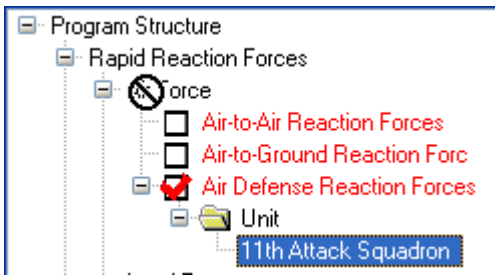


Figure 6-52. ⃠ Symbol Indicating Drop Not Allowed

Deleting Content Assignments

Any content can be removed from a category by right-clicking on the Unit (or other content) and selecting the **Delete** option and sub-option on the shortcut menu. In Figure 6-53, a single Unit will be deleted from the category.

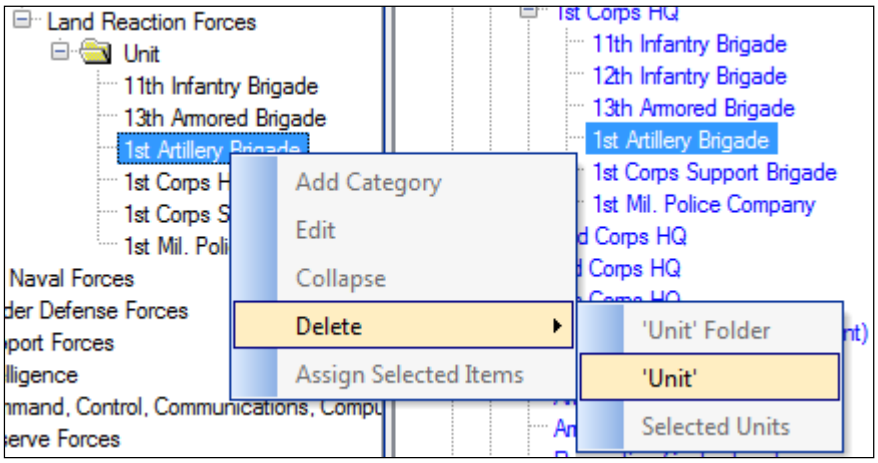


Figure 6-53. "Delete" Options on Shortcut Menu

The message shown in Figure 6-54 is displayed to confirm your selection.

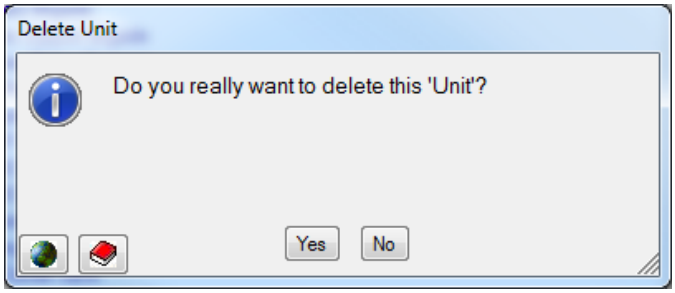


Figure 6-54. Delete Unit Confirmation Message

If the cursor is over a Content folder (such as the "Unit" folder in Figure 6-53) when you right-click, you can choose the **Delete > 'Unit' Folder** option and FOCIS will remove all

Units within the selected folder. The message shown in Figure 6-55 is displayed to confirm your selection.

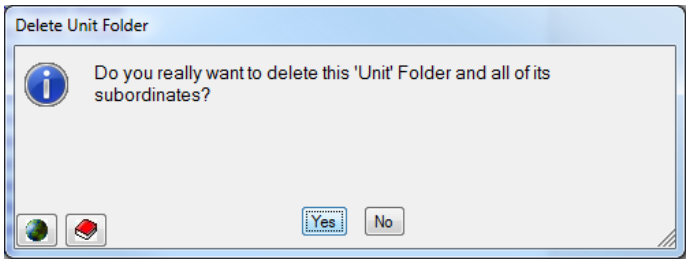


Figure 6-55. Delete Unit Folder Confirmation Message

In Figure 6-56, the Units in red text are selected by pressing the **Ctrl** key and clicking on the Unit name(s). By right-clicking on the Units and choosing **Delete > Selected Units** on the shortcut menu, the selected Units will be deleted from the Unit folder.

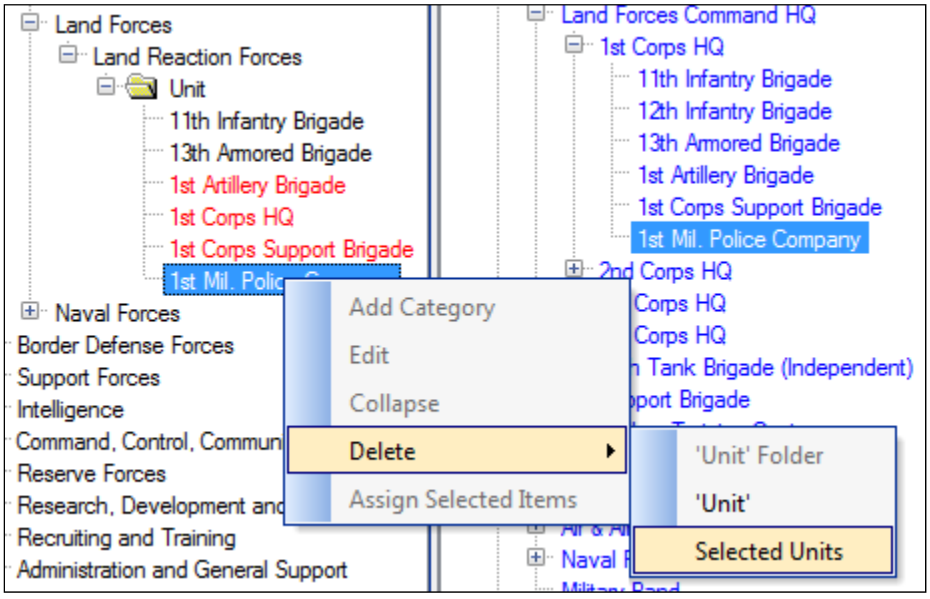


Figure 6-56. "Delete Selected Units" Option on Shortcut Menu

The message shown in Figure 6-57 is displayed to confirm your selection.

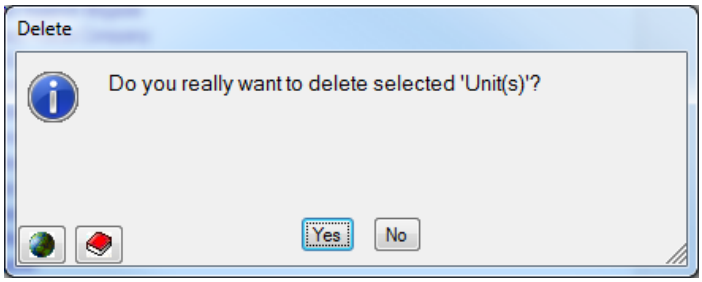


Figure 6-57. Delete Selected Unit(s) Confirmation Message

If you right-click on a category that has a Content folder, you can choose the **Delete > Category and Dependents** option on the shortcut menu (Figure 6-58) and FOCIS will remove the category and all Content assigned to it.

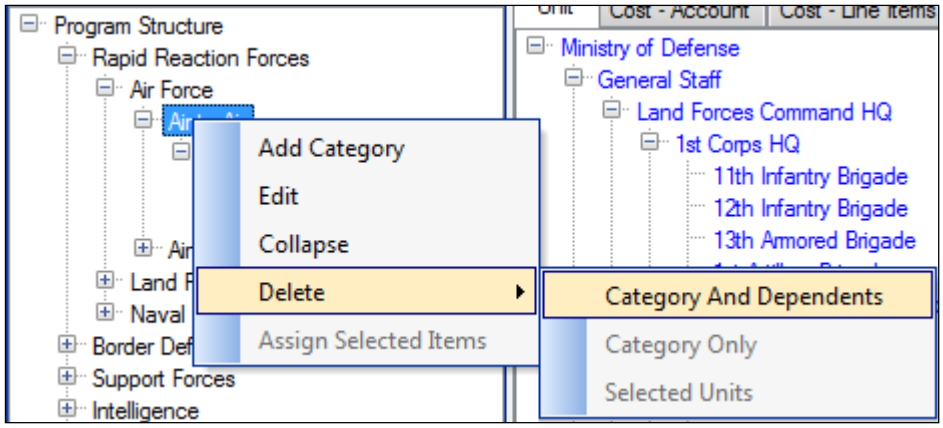


Figure 6-58. "Delete Category and Dependents" Option on Shortcut Menu

The message shown in Figure 6-59 is displayed to confirm your selection.

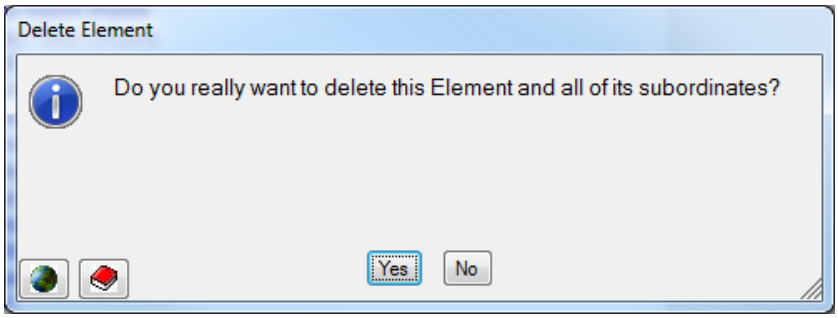


Figure 6-59. Delete Element Confirmation Message

If you right-click on a category (e.g., Naval Reaction Forces in Figure 6-60) whose parent category has no other categories under it, you can delete the selected category and its dependents (e.g., assigned Content) by selecting **Delete > Category and Dependents** on the shortcut menu.

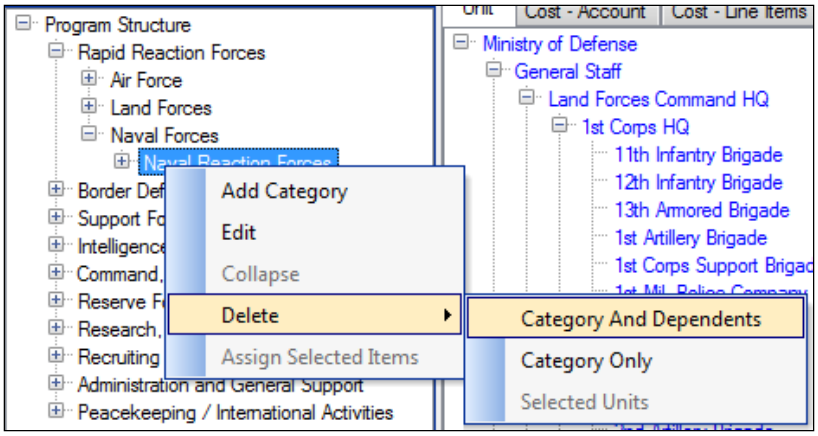


Figure 6-60. "Delete Category and Dependents" Option on Shortcut Menu

You can also delete only the category and have all assigned Content move up to the parent category by right-clicking on the category and selecting **Delete > Category Only** on the shortcut menu, as shown in Figure 6-61.

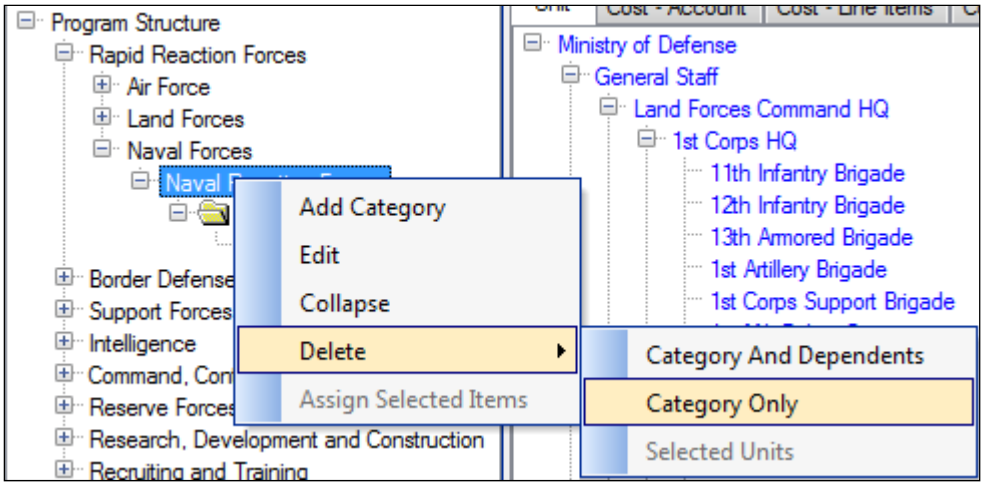


Figure 6-61. "Delete Category Only" Option on Shortcut Menu

The message shown in Figure 6-62 is displayed to confirm your selection.

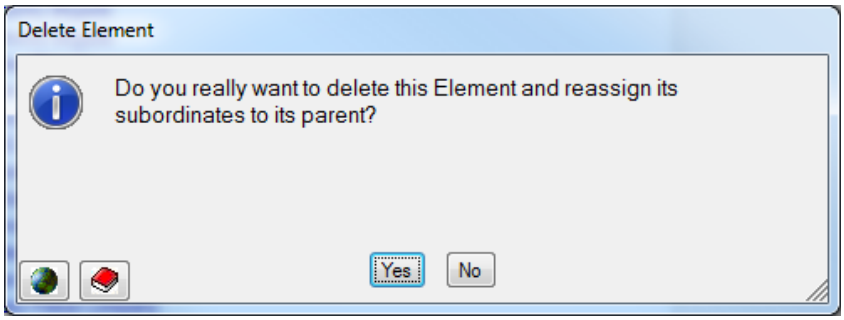


Figure 6-62. Delete Element and Reassign Subordinates Confirmation Message

If you select **Yes**, the Content moves to the higher level category as depicted in Figure 6-63.

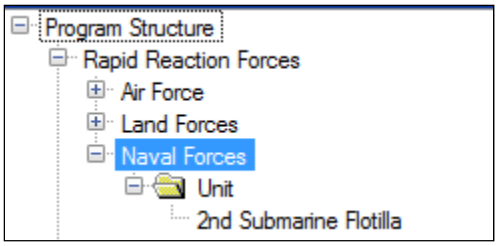


Figure 6-63. Content Reassignment Results

Using Multiple Content Areas

Consider the case where a Model is created to represent how funds are to be distributed according to spending authority. Some types of spending authority are held at a high level of the defense organization and some are distributed for local funding.

Two examples are fairly common. Salaries are almost always managed at a very high level, sometimes even in the Ministry. Other expenses, such as those for fuel, are given to central procurement activities such as a Central Logistics Bureau. Still other expenses are for items that are bought locally and are passed down the chain of command to lower level Budget Holders.

If you wanted to create a Model that showed where funds were to be distributed for spending while still retaining information on what Units should benefit from those funds, you could create a Model called “Budget Holder” and include both Units and Cost Accounts as Content Areas, similar to the Model depicted in Figure 6-64. It is set up showing the organizations that are Budget Holders or those that receive funds to spend. Notice the following:

- The Army has 5 Budget Holders
- There is another Budget Holder called “Central Logistics”
- The right pane of the Analysis Models window shows that both “Unit” and “Cost – Account” tabs have been enabled for assigning Content.

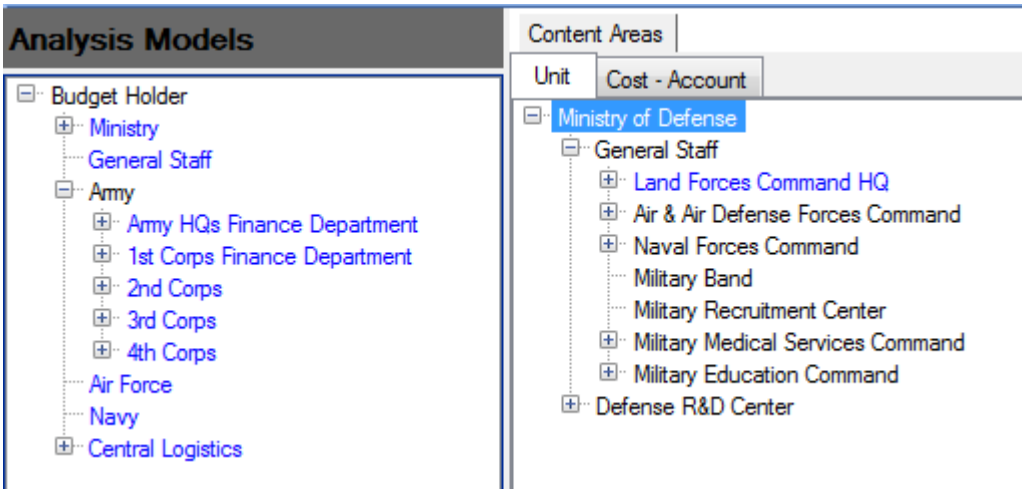


Figure 6-64. “Budget Holder” Model

The problem is how to place salary costs for the Army under the Army HQs Finance Department and fuel costs in Central Logistics, and leave other expenses in the Corps Finance Departments based on Units under each Corps. The starting point is to use Unit Content assignments to place Units under the Budget Holder that is responsible for each Unit. Later, use the Cost – Account basis for assigning cost data to the Army HQs Finance Department and Central Logistics.

Figure 6-65 shows the Units placed under the 1st Corps Finance Department. Similar Unit assignments are made to account for all Units in the organization structure.

Next, the Cost- Account Content tab is opened and "Salaries – Military" for Land Forces and "Salaries – Civilian" for Land Forces are assigned to the Army HQs Finance Department Budget Holder. Next, the cost account used for Land Forces (i.e., LF in the left pane of the display) fuel has been placed under the Central Logistics/Fuel Department Budget Holder. Figure 6-66 shows the assignment of Cost Accounts to these two Budget Holders.

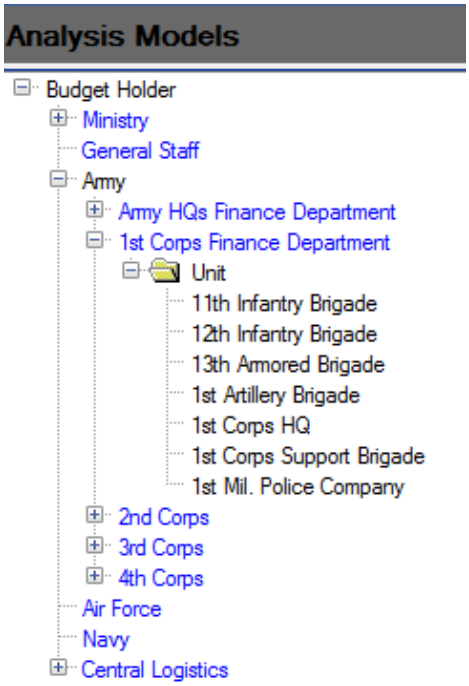


Figure 6-65. Unit Assignments

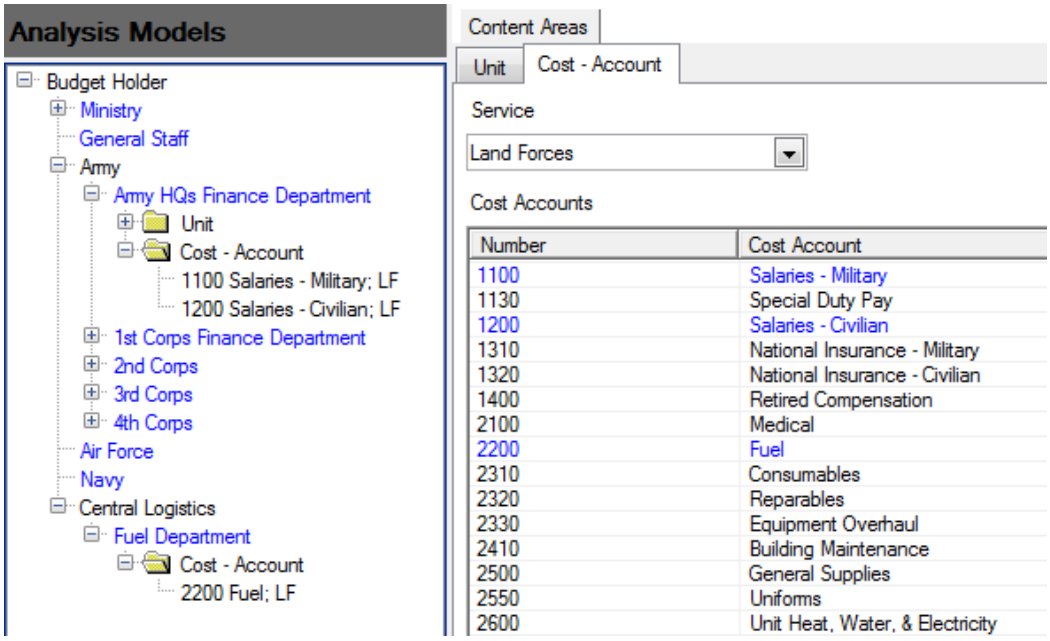


Figure 6-66. Assignment of Cost Accounts to Budget Holders

There is an overlap in the rules assigning Content to categories. Salaries are associated with Units where people are assigned and fuel costs are normally associated with Units that use fuel. How will reports using this Model treat Salaries and Fuel costs?

FOCIS resolves this apparent duplication by applying **assignment rules** in a preset order. That order is shown under the "Content Areas" section on page 6-12 (i.e., Unit, Cost – Account, etc.).

Therefore, Salaries for the 11th Infantry Brigade manpower will initially be assigned to the 1st Corps Finance Department based on the Unit Content assignment, but FOCIS continues to process the assignment rules and looks to see if any Content assignments have been made using Cost – Account "rules." In our example, this type of rule has been used for Salaries and Fuel; therefore, when FOCIS next applies these rules, Salary cost data initially associated with the 1st Corps Finance Department Budget Holder are re-assigned to the Army HQs Finance Department Budget Holder category and Fuel cost data are associated with the Central Logistics Budget Holder.

In a similar manner, salaries for other Units are first assigned to categories based on how Units were assigned to Model categories and then are re-assigned to the Army HQs Finance Department. Likewise, fuel costs for all Units are re-assigned to the Central Logistics Budget Holder category.

You can see how these rules are used in the following report extract that used the Budget Holder Model (the procedures for doing this are explained in Chapter 7, Reports). The report extract shown in Figure 6-67 shows the result we expected: Salaries for military and civilians are under the Army HQs Finance Department and not under any other Budget Holders. Other

Unit costs do appear under each Corps Budget Holder. Fuel appears under the Central Logistics/Fuel Department Budget Holder. The other Unit costs that appear under the Army HQs Finance Department are for Units assigned to this parent Unit using the Unit Content rules.

Budget Holder (1)	Budget Holder (2)	Cost Account	2007	2008	2009	2010	2011
Central Logistics	Fuel Department	2002 Fuel	1,529,871	1,529,871	1,529,871	1,529,871	1,529,871
Army	Army HQs Finance Department	1001.1 Salaries -	125,162,290	126,002,643	128,537,175	132,820,417	135,409,487
		1001.2 Salaries -	3,637,759	3,637,759	3,637,759	3,637,759	3,637,759
		3001 Unit Heat,	8,159,378	8,159,378	8,159,378	8,159,378	8,159,378
		3002 Unit Supplies	3,280,773	3,280,773	3,280,773	3,280,773	3,280,773
		3003 Unit Building	11,721,608	11,721,608	11,721,608	11,721,608	11,721,608
	Army HQs Finance Department Total		151,961,808	152,802,161	155,336,693	159,619,935	162,209,005
	1st Corps Finance Department	3001 Unit Heat,	10,151,262	10,151,262	10,169,232	10,169,232	10,169,232
		3002 Unit Supplies	10,173,863	10,173,863	10,184,888	10,184,888	10,184,888
		3003 Unit Building	16,906,441	16,906,441	16,906,441	16,906,441	16,906,441
	1st Corps Finance Department Total		37,231,566	37,231,566	37,260,561	37,260,561	37,260,561
	2nd Corps Finance Department	3001 Unit Heat,	11,223,993	11,232,813	11,232,813	11,241,854	11,241,854
		3002 Unit Supplies	12,852,936	12,852,936	12,852,936	12,852,936	12,852,936
		3003 Unit Building	18,722,257	18,722,257	18,722,257	18,722,257	18,722,257
	2nd Corps Finance Department Total		42,799,186	42,808,006	42,808,006	42,817,047	42,817,047

Figure 6-67. Budget Holder Model Report Extract

It is then an easy matter to provide further detail showing where the fuel should be distributed after it is bought. Figure 6-68 shows a small extract from that report.

Budget Holder (1)	Budget Holder (2)	Cost Account	Unit Name	2007	2008	2009	2010
Central Logistics	Fuel Department	2002 Fuel	11th Infantry Brigade	44,848	44,848	44,848	44,848
			12th Infantry Brigade	44,848	44,848	44,848	44,848
			13th Armored Brigade	1,890	1,890	1,890	1,890
			1st Artillery Brigade	8,818	8,818	8,818	8,818
			1st Corps HQ	2,939	2,939	2,939	2,939
			1st Corps Support Brigade	6,718	6,718	6,718	6,718
			1st Mil. Police Company	2,939	2,939	2,939	2,939
			21st Infantry Brigade	44,848	44,848	44,848	44,848
			22nd Infantry Brigade	44,848	44,848	44,848	44,848

Figure 6-68. Fuel Report Extract

Similar detail could be provided for salaries.

Using both Unit and Cost – Account Content Areas for cost reports provides great flexibility in designing reports.

Chapter 7.
FOCIS Reports

FOCIS Reports provide the primary tools that document the Resources and Costs of the defense program in the currently open Position database. Reports are used with Analysis Models (see Chapter 6) *to select, organize, and summarize data into useful information* to support management decision-making and defense program analysis.

Management information needs change frequently as new problems arise and priorities evolve to meet new challenges. To support the need for changing information, FOCIS provides a flexible approach to creating outputs that allows users to organize data in many different ways. No set of pre-designed reports will meet the evolving needs of users. For these reasons, FOCIS allows users to create—and save for future use—their own reports using a powerful tool known as a pivot table.

Pivot tables provide users almost total control over what data are included in reports, how those data are organized, and the level of detail included. Using easy to learn drag-and-drop techniques, users can "experiment" with report data and layouts until they create a format that meets their needs. While a few basic reports are included in the installed version of FOCIS to help new users become familiar with pivot table reports, these basic reports will be quickly surpassed by reports created to suit each user's needs. When reports are designed that can satisfy several users, FOCIS provides the ability to share report layouts among users.

FOCIS also provides the capability to design and save reports that compare two different Positions. These comparison reports provide an easy way to track changes from one database Position (e.g., a Program Alternative) to another throughout a program development cycle or to compare the Cost and Unit Resource data in two program plans to support the analysis of alternative programs.

Additionally, FOCIS provides the ability to show Cost data that represent both "Full" and "Budgeted" costs in the same report. ("Full" costs are the costs calculated before Annual Funding Levels are applied – the amount of money needed to fully pay for the resources and their planned activities.)

Rounding out FOCIS's report-generating capability is the ability to use one or more Analysis Model structures as part of the pivot table report. With the use of Analysis Models, data can be **selected**, **grouped,** and **summarized** in ways that are not possible using only the details of the data as they were entered in the database. If you have not already done so, you should become familiar with the creation and use of Analysis Models (see Chapter 6).

Analysis Models can be used with FOCIS reports to select and group Unit Resource or Cost data. A few examples of how Analysis Models can be used to enhance reports are listed below:

- Unit Resource and Cost data can be selected or organized by geographic location, Unit type, or mission by assigning Units to corresponding categories.
- Unit Manning and Personnel costs can be summarized as “Officer” and “Enlisted” Personnel rather than by individual Personnel Type.
- Cost data can be grouped into budget categories such as Personnel, Operations and Maintenance, and Investment instead of by individual Cost Account.
- Equipment inventories, OPTEMPO, or any Equipment cost data can displayed based on use (e.g., combat, support, administrative) or priority (e.g., critical versus non-critical).

All of these ways of grouping data are based on creating user-defined categories in the Analysis Models portion of FOCIS.

Finally, if all of the tools FOCIS provides are not adequate to meet a special need, FOCIS reports can be saved as Excel spreadsheets. Once the data are in Excel, graphs and other outputs can be customized or formatted to match individual preferences.

This chapter is organized to first provide a general introduction to pivot tables. Following this introduction, the manual provides specific instructions on using FOCIS’s report development tools.

Introduction to Pivot Tables

A pivot table is an interactive tool for organizing data. Let’s consider a few examples using FOCIS Personnel data. The simple table in Figure 7-1 shows the number of Personnel (Actual) by Service, Personnel Class, and Personnel Type and Year.

Unit Service	Personnel Class	Personnel Type	2008	2009	2010	2011	2012	2013
Air & Air Defense Forces	Active	General Officer	13	13	13	13	13	13
		Field Grade Officer	101	102	103	103	103	108
		Field Grade Officer	2	2	2	2	2	2
		Company Grade Officer	164	173	179	179	179	187
		Company Grade Officer	12	13	13	13	13	14
		Enlisted (Active/Regular)	190	201	206	206	206	213
		Conscript (Active/Regular)	8,184	8,654	8,914	8,914	8,914	9,150
	Active Total		8,666	9,158	9,430	9,430	9,430	9,687
	Civilian	Technician (Civilian/Avg	33	33	33	33	33	34
		Laborer (Civilian/Avg Pay)	4	4	4	4	4	5
	Civilian Total		37	37	37	37	37	39
Air & Air Defense Forces Total			8,703	9,195	9,467	9,467	9,467	9,726

Figure 7-1. Number of Personnel by Service, Personnel Class, Personnel Type and Year

By adding the Unit Name to the report, these data can be shown with more detail (Figure 7-2).

Unit Service	..	Unit Name	Personnel Class	Personnel Type	2008	2009	2010	2011	2012	2013
⊟ Air & Air Defense Forces	⊟	⊟ Air & Air Defense Forces Command	⊟ Active	General Officer	5	5	5	5	5	5
				Field Grade Officer	30	30	30	30	30	30
				Company Grade Officer	30	30	30	30	30	30
				Conscript (Active/Regular)	50	50	50	50	50	50
			Active Total		115	115	115	115	115	115
			⊟ Civilian	Technician (Civilian/Avg	20	20	20	20	20	20
		Air & Air Defense Forces Command Total			135	135	135	135	135	135

Figure 7-2. Same Data with Unit Name Added

By removing the Personnel Type field, some of the detail can be removed (Figure 7-3).

Unit Service	Personnel Class	2008	2009	2010	2011	2012	2013
⊟ General Staff	Active	2,827	2,827	3,089	3,089	3,089	3,089
	Reserve	380	380	410	410	410	410
	Civilian	182	182	182	182	182	182
General Staff Total		3,389	3,389	3,681	3,681	3,681	3,681
⊟ Land Forces	Active	28,923	29,696	30,868	30,868	30,868	31,263
	Reserve	2,360	2,410	2,530	2,530	2,530	2,555
	Civilian	105	105	105	105	105	105
Land Forces Total		31,388	32,211	33,503	33,503	33,503	33,923
⊟ Air & Air Defense Forces	Active	8,666	9,158	9,430	9,430	9,430	9,687
	Civilian	37	37	37	37	37	39
Air & Air Defense Forces Total		8,703	9,195	9,467	9,467	9,467	9,726
⊟ Naval Forces	Active	1,802	2,055	2,055	2,055	2,055	2,189
	Reserve	707	808	808	808	808	859
	Civilian	86	97	97	97	97	104
Naval Forces Total		2,595	2,960	2,960	2,960	2,960	3,152
Grand Total		46,075	47,755	49,611	49,611	49,611	50,482

Figure 7-3. Same Data with Personnel Type Field Removed

Pivot tables provide several different types of numerical data—referred to as Data Items. Adding the Data Item field to the column layout, as shown in Figure 7-4, provides you with the ability to show each different type of data. In the “Using the Report Layout Window” section of this chapter, you will learn how to modify these types of data (e.g., select any combination of Actual, Authorized, Fill %, etc.) in the report layout.

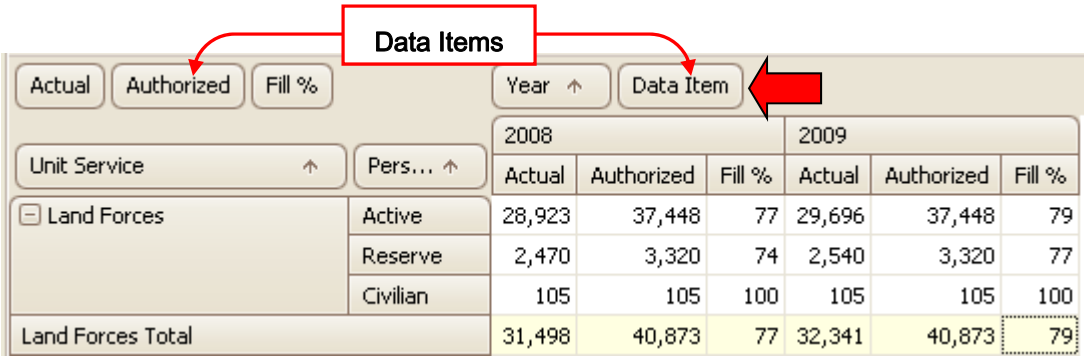


Figure 7-4. Same Data with Data Item Field Added

This process of adjusting the level of detail and the report layout is all accomplished by moving data field objects around the report layout window. The result of each change is seen almost as fast as a new layout is created. The possibilities for viewing data are only limited by the types of data in the underlying database.

The basic building blocks of pivot tables are the data fields that are included in the layout. In Figure 7-1 through Figure 7-4, the fields were Unit Service, Unit Name, Personnel Class, Personnel Type, and Year. Report layouts are altered by moving fields between four different areas of the pivot table window—the Rows, Columns, Filters, and Data areas.

Within the FOCIS reports window, these areas are located as shown in Figure 7-5.

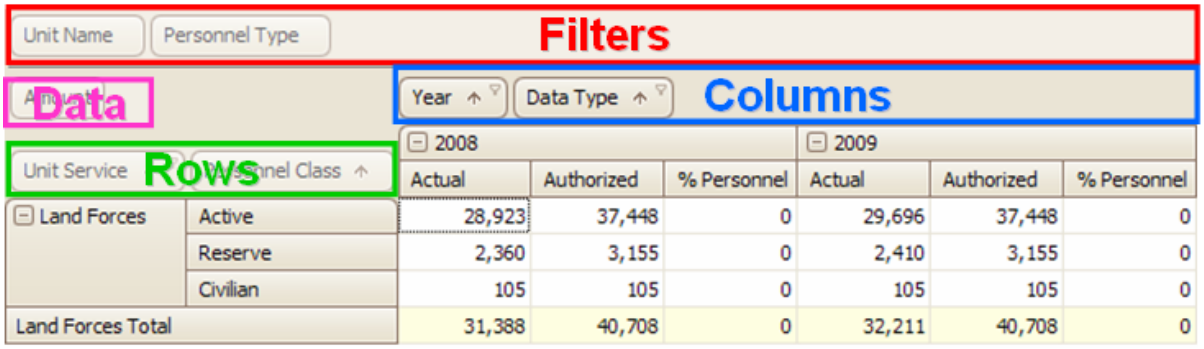


Figure 7-5. Four Areas of Pivot Table Window

Pivot Table Fields

Each type of data that appears in a pivot table is called a field. Each type of FOCIS data has a different set of data characteristics. For example, Manpower can be described using Personnel Class (Active, Reserve, Civilian, etc.), Personnel Category (Officer, Enlisted, etc.), and Pay Level (Average, Pilot, etc.). Each of these characteristics can be used in a report to group data. The section in this chapter entitled “Using the Report Layout Window” provides a complete list of the data characteristics that can be used as fields with each type of FOCIS data. For now, it is only important to realize that when you are working with pivot tables you will need to choose which fields you want to use in the report.

Each field has a variety of functions that you can use to tailor the look of the report or change the data included in the report. Each field is represented by an object called a field button, such as this example of the field "Unit Service":

. These objects can be moved with drag-and-drop actions.

Field Display Order: Each field button has an arrow that points either up or down. When pointed up ( ) it means that the data are sorted in ascending alphanumeric order. When pointed down ( ) it means that the data are sorted in descending alphanumeric order. You change the order back and forth by clicking on the field button (works like a toggle).

Field Data Filters: Each field button also has a filter indicator, a small funnel shape in the upper right-hand corner that becomes visible when you hold the cursor over the button. That symbol can be seen in the Unit Service button shown here:

. When you click on this funnel icon ( ), a list of all unique data entries (filter categories) is shown, and you can choose which will appear in the report and which will not. In the case of the Unit Service field in the Demo Data Position, you will see a display like the one shown in Figure 7-6. You include and exclude Services by selecting or clearing the check boxes as appropriate.

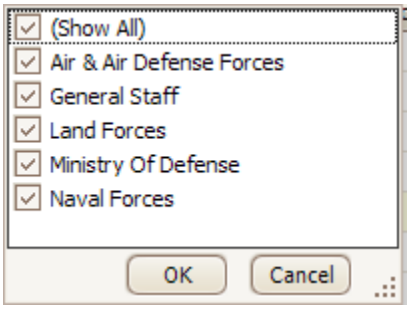


Figure 7-6. List of Filter Categories for Unit Service Field

Pivot Table Rows and Columns

The fields in the Rows and Columns Areas establish the types of data included and where they appear in the results. The Rows Area of the display determines which fields appear and, just as important, the order in which they appear.

Look at the two examples in Figure 7-7.

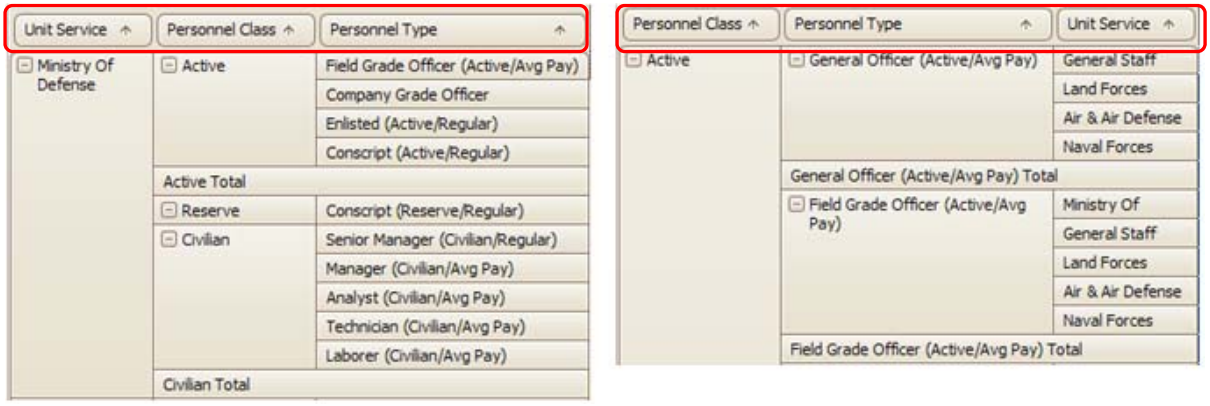


Figure 7-7. Reordering of Fields in the Rows Area

Simply by changing the order of the row fields, the emphasis of the report changes from focusing first on Service and then Personnel Type, to focusing first on Personnel Type and then Service. This change was made by moving the Unit Service field from the left-most row field to the right-most row field.

You can change the order of rows or columns using simple drag-and-drop techniques. Click on a field you want to move and hold down the left mouse button. While holding down the mouse button, drag the field to the new location. You will see the outline of a box appear when you have moved to a place where the field can be dropped. When you see the outline form at the location where you want to move the field, release the mouse button (i.e., drop it).

A field can be moved between the Rows Area and the Columns Area simply by dragging it from one Area to the other directly on the report display. In Figure 7-8, the Data Type field shows on the left as a row field and on the right as a column field. Any field can be displayed as a row or a column.

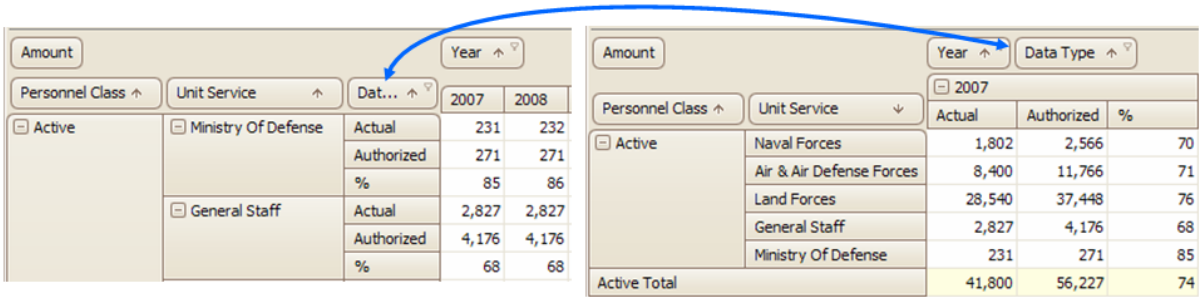


Figure 7-8. Moving Field from Rows to Columns Area

A field can also be removed from the Rows or Columns Area by either dragging it out of the Rows or Columns Area into the Filter Area (discussed in the next section) or by right-clicking on the field and selecting **Hide** from the shortcut menu.

Pivot Table Filters

In a pivot table, filters are used to select a subset of the data included in the report. Pivot tables have two different ways of filtering data: using fields in the Filter Area or setting a field filter in the Rows or Columns Area.

The Filter Area: When you want to limit the data included in a report but not show a specific data field's content as part of the report, you can place that field in the Filter Area. For example, if you want to prepare a report that only shows data from one Service but you do not want the Service Name to show in the Rows or Columns Area of the output, place the Unit Service field in the Filter Area and select the Service you want included using the icon. Any field (or fields) not used as a row or column can be put in the Filter Area and used to limit the data included in the pivot table results.

Filters in Row and Column Fields: The second way to filter data is to set the filters in fields used in a row or column. You would use this approach when you intend to choose multiple data values as filters and want those choices to show in the report outputs. Figure 7-9 shows the list of all Services in the Demo database. In this example three Services have been chosen (i.e., checked).

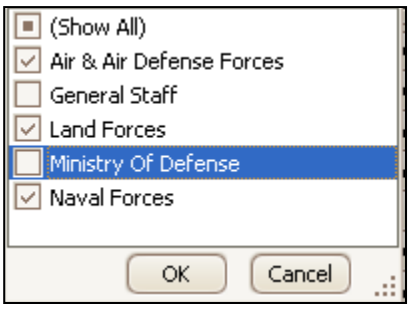


Figure 7-9. Three Services Selected in Filter List

These same choices would be available if the Unit Service field were in the Filters Area. The difference is in the report content. In both cases, data would be included in the results for the selected Services. If the Unit Service field were in the Rows or Columns Area, the selected Service names would show up as a row or column header. If used in the Filter Area, the Service names would not show in the report and all the data for the three Services would be combined in each cell in the pivot table.

When a filter has been set in a row or column field, a small

"funnel" symbol appears in the upper right corner of that field. When no filters are set, no symbol appears:

.

Personnel Class	Unit Service	2008	2009
Active	Land Forces	28,923	29,696
	Air & Air Defense Forces	8,666	9,158
	Naval Forces	1,802	2,055
Active Total		39,391	40,909
Reserve	Land Forces	2,360	2,410
	Naval Forces	707	808
Reserve Total		3,067	3,218
Civilian	Land Forces	105	105
	Air & Air Defense Forces	37	37
	Naval Forces	86	97
Civilian Total		228	239
Grand Total		42,686	44,366

Figure 7-10. Filter in Row Field

In Figure 7-10, the filter was set as a row field filter. In Figure 7-11, the same filter settings were used for Unit Service but it was moved to the Filter Area, removing that detail from the display.

Personnel Class	2008	2009
Active	39,391	40,909
Reserve	3,067	3,218
Civilian	228	239
Grand Total	42,686	44,366

Figure 7-11. Filter in Filter Area

Field Totals and Grand Totals

Pivot tables have the ability to display subtotals for each field that appears in a row or column. There is also an option to show the Grand Total for all rows or all columns. Sometimes these totals are not meaningful and can be suppressed as follows.

Figure 7-12 shows the result of right-clicking on any data field. The figure on the left shows the menu for a row or column that is showing the field total and Grand Total. The figure on the right shows the menu for a row or column that is not currently showing the field total or Grand Total. Clicking on the current condition name (e.g., “Hide Field Total” on the left example) will produce the opposite condition.

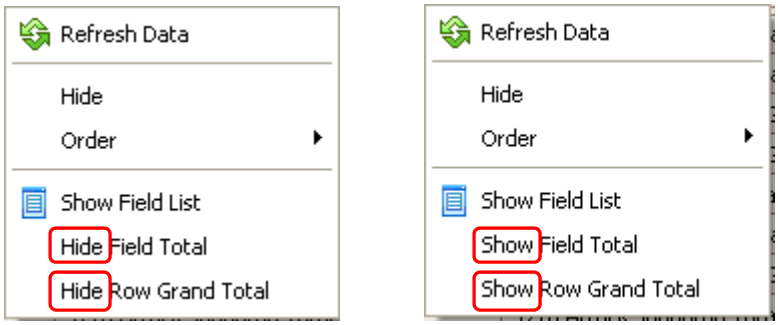


Figure 7-12. Shortcut Menu for Data Field Buttons (Show vs. Hide)

Pivot Table Data

The Data Area of the pivot table can appear in a variety of different formats. If the report selected has only one possible type of data, then FOCIS places a report data field called “Amount” in the Data Area and automatically populates the Amount field with the selected data (e.g., cost reports have this format when the **Include Full Cost** option is not in use.).

Some FOCIS data, such as Manpower or Equipment, are stored with several types of data. Manpower has Authorized and Actual values and if there are Reserve (a Personnel Class – see Personnel data setup) data, FOCIS also stores training days for this type of Manpower. Equipment data have Authorized and Actual values as well as quantities of Stored equipment. Other Unit Resources (i.e., Equipment Use, Unit Activity, and War Reserves) have their own types of data.

When FOCIS prepares a pivot table for Unit Resource data (i.e., Manpower, Equipment, Equipment Use, Unit Activity, or War Reserves), it places all available data items (e.g., Authorized, Actual, Stored, etc.) as individual report data fields in the pivot table Data Area.

For Unit Resource reports, FOCIS also computes “Fill %” as Actual quantity divided by Authorized quantity and allows you to use these data in reports by creating another data item called “Fill %.” An example is shown in Figure 7-13. The example is a Manpower report and the data items that were included are Actual, Authorized and Fill %. Training Days could have been used but in this example, the Days data field was “Hidden” (by right clicking on that data field and choosing **Hide**.). The three chosen data items are shown in the Data Area of the pivot table and the Data Item field appears as a Row or Column based on where this data field is placed in the report layout. In Figure 7-13, Data Items appear as columns.

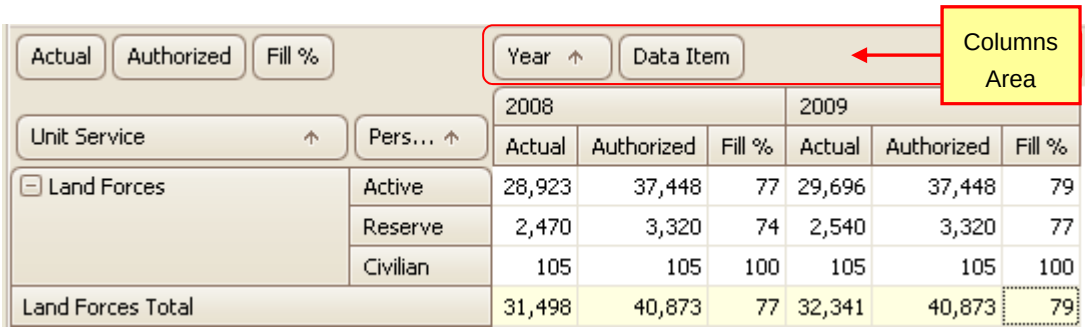


Figure 7-13. Data Item Field in Columns Area

When the Data Item field is used as a Row, the pivot table appears as shown in Figure 7-14.

Figure 7-14. Data Item Field in Rows Area

If you want to produce a report where the data items appear in a different order, simply drag and drop the data items in the Data Area in the order in which you want them shown. In Figure 7-15, the Authorized data appears before the Actual data in the Data Area because Authorized is now placed before the other data items in the Rows Area.

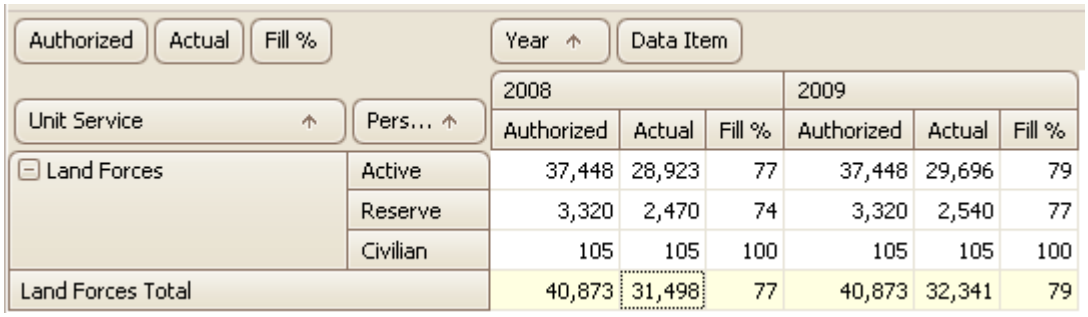


Figure 7-15. Modified Column Order

It is also possible to produce reports in which selected data item(s) are totally removed from the report data shown. This is done by right-clicking the data item(s) to be removed and selecting the **Hide** option on the shortcut menu. In Figure 7-16, after right-clicking on the Authorized data item and selecting **Hide**, the Authorized data item would be removed from the report.

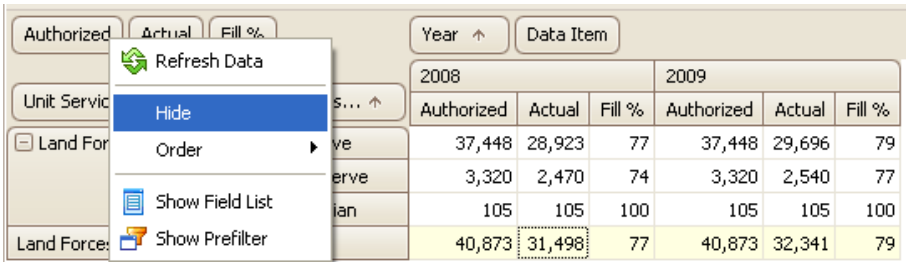


Figure 7-16. Hiding the Authorized Data Item

Another way to accomplish the same result is to drag the Authorized data field to the Filter Area of the pivot table. The result of doing that is shown in Figure 7-17.

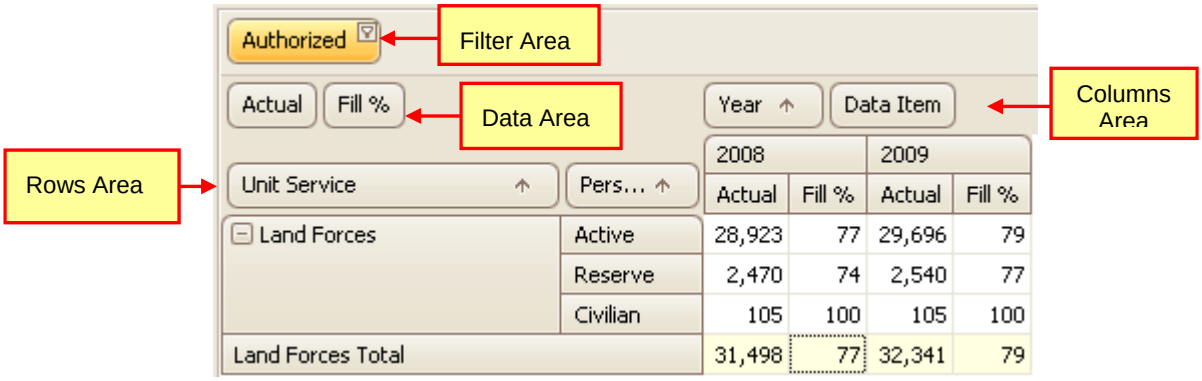


Figure 7-17. Authorized Data Item Dragged to Filter Area

Pivot Tables Summary Information

Pivot tables are interactive tools for selecting, grouping, summarizing, and displaying data. FOCIS offers several pre-designed pivot table reports to satisfy basic documentation requirements. Experimenting with these standard reports is a good place to start learning how to make this tool serve your needs. Select a report and click the **Run** button, then move the fields around and see what happens. Move data between the Rows, Columns, and Filter Areas or change the order in which the data fields appear in the report display to produce a report that serves your needs. Use the filter symbol ( ) and change the data included. See how the results change as you try each variation.

The following sections will tell you how to choose the types of data you want to see, how to choose from among all the types of data items that apply to that data selection. You will also learn how to control the range of Units included in the report and how to summarize data

based on Command Levels. Many specialized reports can be created. Some have been included as standard reports but many more can be created and saved for repeated use.

Using FOCIS Reports

The Reports Work Area can be opened from the Work Areas menu at the top of the FOCIS window or by using the Explorer Bar navigation controls at the bottom left of the FOCIS application, as shown in Figure 7-18.

When the Reports Work Area opens the first time during a work session, the Units By Year report (Figure 7-19) will be selected. After using Reports the first time, the last report used will be selected when returning to this Work Area.

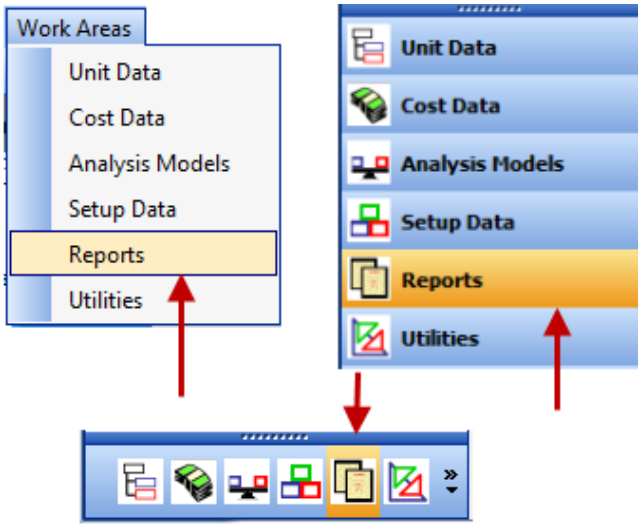


Figure 7-18. Accessing Reports Work Area

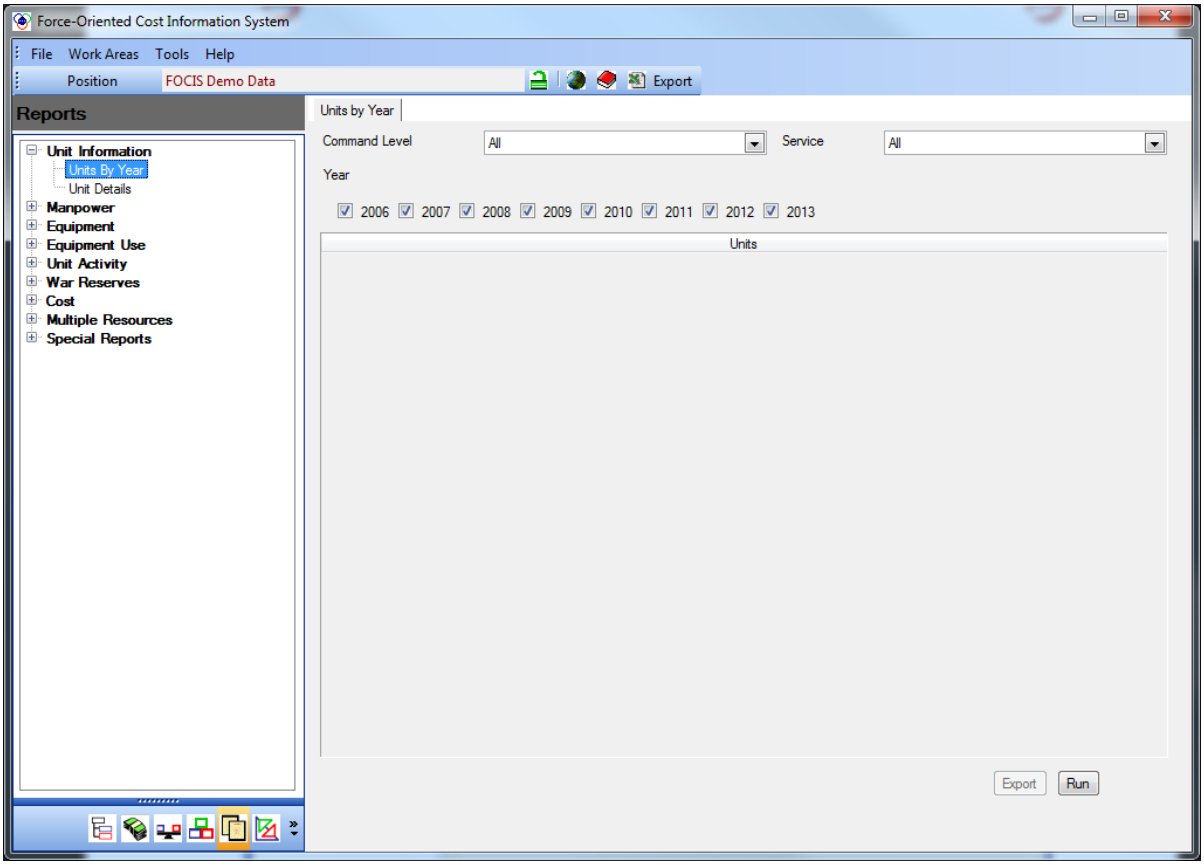


Figure 7-19. Units ByYear Report Window

The navigation (left) pane of the window is used to select a report. The main Report window (right pane) is used to revise report data or its layout. The main Report window is also where FOCIS displays the pivot table results.

Reports are listed in major groupings: Unit Information, Manpower, Equipment, Equipment Use, Unit Activity, War Reserves, Cost, Multiple Resources, and Special Reports. The reports within each group are shown or *hidden* using either the expand (⊞) or collapse (⊟) icons.

Except for the Unit Information group, the list of reports within each category consists of standard reports and reports that have been added locally. Standard reports appear in red text. The names of Standard reports can be edited but the content and layout cannot be changed and the reports cannot be deleted. Reports that were created and saved by users are shown in black text and can be revised or deleted.

Figure 7-20 shows the list of Standard reports in red.

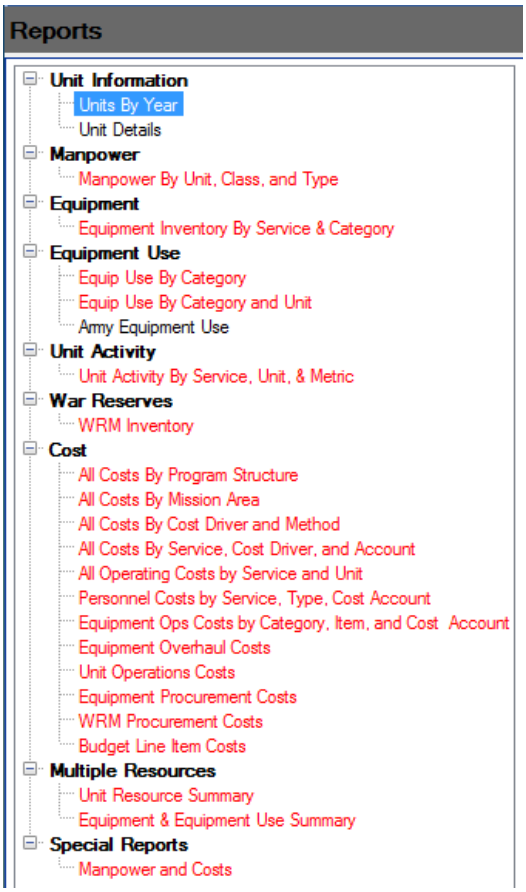


Figure 7-20. List of Standard Reports

To edit the name of any report, right-click on the report name and select **Edit** from the shortcut menu, as shown in Figure 7-21.

Instructions for using the Edit, Delete, Export, and Reorder Report commands are provided in the "Using Report Tools" section of this chapter.

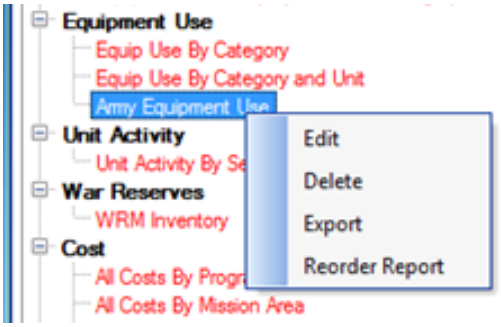


Figure 7-21. Shortcut Menu

Unit Information Reports

The Unit Information category contains reports that document the organization data and unit characteristics.

Units By Year Report

This report provides a year-by-year display of the organization structure in the currently open Position database. It is accessible by navigating to **Unit Information > Units By Year** in the navigation pane of the Reports Work Area window, as shown in Figure 7-22.

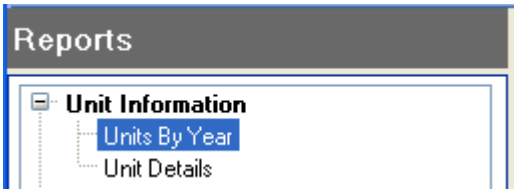


Figure 7-22. Units By Year Option in Reports Work Area

This report is also accessible from other Work Areas through the main menu **Tools > Units by Year** option, as shown in Figure 7-23.

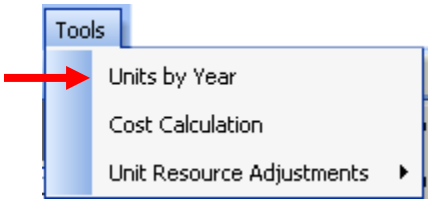


Figure 7-23. Units by Year Option on Tools Menu

The top portion of the Unit by Year report window provides several tools to tailor the display, as shown in Figure 7-24. Two filters are provided to limit the data returned: Command Level and Service. The Command Level field allows you to filter the data so that only Units with a selected command level or higher are shown. The Service field allows you to limit the report to show only Units from a single Service. Both of these filters can be used at the same time. The year range can also be set to any or all years by checking or clearing the appropriate check boxes.

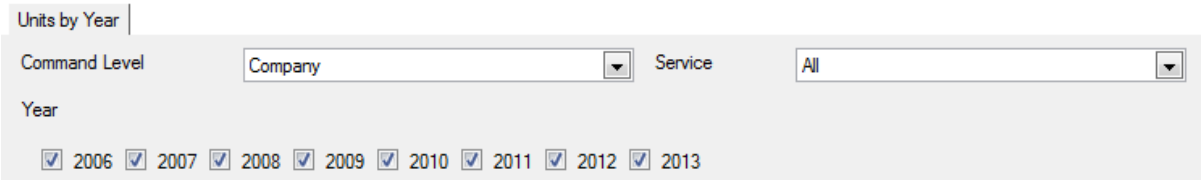


Figure 7-24. Data Filters and Year Range

When the filters and year range are set, click the **Run** button at the bottom of the window to produce the report (Figure 7-25). Clicking the **Export** button will place the data in an Excel spreadsheet.

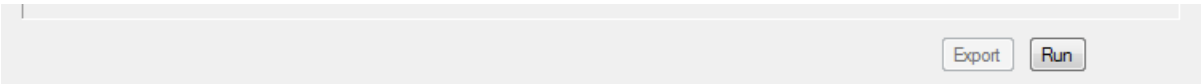


Figure 7-25. Export and Run Buttons

Figure 7-26 and Figure 7-27 show examples of the outputs that can be generated. In Figure 7-26, the Command Level filter has been set to **Division/Wing**, thereby excluding all Units below this level from the report.

Units by Year

Command Level: Division/Wing Service: All

Year: 2006 2007 2008 2009 2010 2011 2012 2013

Units								
Unit Name	2006	2007	2008	2009	2010	2011	2012	2013
Ministry of Defense	x	x	x	x	x	x	x	x
General Staff	x	x	x	x	x	x	x	x
Land Forces Command HQ	x	x	x	x	x	x	x	x
1st Corps HQ	x	x	x	x	x	x	x	x
2nd Corps HQ	x	x	x	x	x	x	x	x
3rd Corps HQ	x	x	x	x	x	x	x	x
4th Corps HQ	x	x	x	x	x	x	x	x
Air & Air Defense Forces Command	x	x	x	x	x	x	x	x
1st Attack Wing HQ	x	x	x	x	x	x	x	x
2nd Fighter Wing HQ	x	x	x	x	x	x	x	x
3rd Air Defense Wing HQ	x	x	x	x	x	x	x	x
Naval Forces Command	x	x	x	x	x	x	x	x
Military Medical Services Command	x	x	x	x	x	x	x	x
Military Education Command					x	x	x	x
Defense R&D Center	x	x	x	x	x	x	x	x

Figure 7-26. Command Level Filter Set to "Division/Wing"

In Figure 7-27, the Service filter has been set to **Naval Forces**, thereby excluding all other Services from the report.

Units by Year

Command Level: All Service: Naval Forces

Year: 2006 2007 2008 2009 2010 2011 2012 2013

Units								
Unit Name	2006	2007	2008	2009	2010	2011	2012	2013
Naval Forces Command	x	x	x	x	x	x	x	x
1st Surface Flotilla	x	x	x	x	x	x	x	x
2nd Submarine Flotilla	x	x	x	x	x	x	x	x
Neptune Naval Base	x	x	x	x	x	x	x	x
Naval Training Center	x	x	x	x	x	x	x	x
Recreation Center Naval	x	x	x	x	x	x	x	x

Figure 7-27. Service Filter Set to "Naval Forces"

Unit Details Report

Every Unit has descriptive information that can change by year. These data can be displayed in a format that can be exported and viewed. The standard Unit Details report layout is shown in Figure 7-28. Details can be removed or the fields re-ordered either before the report is run or after the results are displayed. When ready to view the report, click the **Run** button at the bottom of the window.

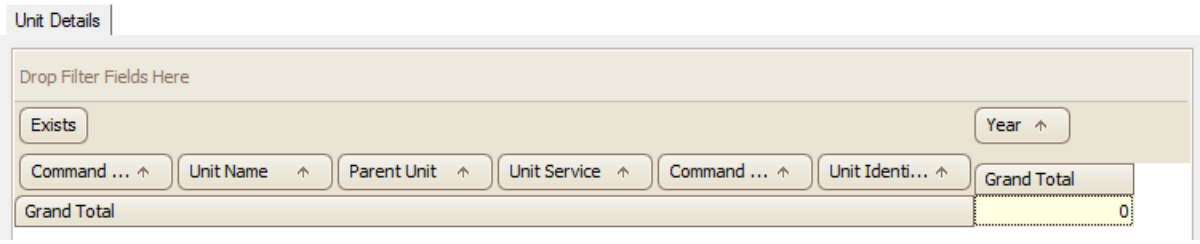


Figure 7-28. Standard Unit Details Report Layout

A typical output would look similar to that shown in Figure 7-29.

Unit Details

Drop Filter Fields Here

Exists | Year

..	Unit Name	Parent Unit	Unit Service	Command ...	Unit Identi...	2010	2011	2012	2013
01.	Ministry of Defense	None	Ministry Of	Ministry of	100000	1	1	1	1
01.	General Staff	Ministry of	General Staff	General Staff	110000	1	1	1	1
01.	Land Forces	General Staff	Land Forces	Service Level	10000	1	1	1	1
01.	1st Corps HQ	Land Forces	Land Forces	Corps	11000	1	1	1	1
01.	11th Infantry	1st Corps HQ	Land Forces	Brigade	11100	1	1	1	1
01.	12th Infantry	1st Corps HQ	Land Forces	Brigade	11100	1	1	1	1
01.	1st Artillery Brigade	1st Corps HQ	Land Forces	Brigade	11500	1	1	1	1
01.	1st Corps Support	1st Corps HQ	Land Forces	Brigade	11400	1	1	1	1
01.	1st Mil. Police	1st Corps HQ	Land Forces	Company	11600	1	1	1	1
01.	Military Band	1st Corps HQ	General Staff	Company	110008	1	1	1	1
01.	Infantry Brigade	1st Corps HQ	Land Forces	Brigade		1	1	1	1
01.	2nd Corps HQ	Land Forces	Land Forces	Corps	12000	1	1	1	1

Figure 7-29. Typical Unit Details Report Results

Figure 7-30 shows how the display changes when a Unit is resubordinated or its name changes. In this example, two changes were made to the 13th Attack Squadron. First, the squadron was resubordinated in 2010 and moved under the 2nd Fighter Wing. Second, its name was changed in 2012 to the 13th Ground Support Squadron. Because of these changes, the Unit is listed three times in the report and the entries in the year columns show when the changes were made.

Unit Name	Parent Unit Name	2007	2008	2009	2010	2011	2012	2013
Air & Air Defense Forces Command	General Staff	1	1	1	1	1	1	1
1st Attack Wing HQ	Air & Air Defense Forces Command	1	1	1	1	1	1	1
11th Attack Squadron	1st Attack Wing HQ	1	1	1	1	1	1	1
12th Attack Squadron	1st Attack Wing HQ	1	1	1	1	1	1	1
13th Attack Squadron	1st Attack Wing HQ	1	1	1				
1st Attack Support Squadron	1st Attack Wing HQ	1	1	1	1	1	1	1
2nd Fighter Wing HQ	Air & Air Defense Forces Command	1	1	1	1	1	1	1
21st Fighter Squadron	2nd Fighter Wing HQ	1	1	1	1	1	1	1
22nd Fighter Squadron	2nd Fighter Wing HQ	1	1	1	1	1	1	1
23rd Fighter Squadron	2nd Fighter Wing HQ	1	1	1	1	1	1	1
2nd Attack Support Squadron	2nd Fighter Wing HQ	1	1	1	1	1	1	1
13th Attack Squadron	2nd Fighter Wing HQ				1	1		
13th Ground Support Squadron	2nd Fighter Wing HQ						1	1
3rd Air Defense Wing HQ	Air & Air Defense Forces Command	1	1	1	1	1	1	1
31st Air Defense Squadron	3rd Air Defense Wing HQ	1	1	1	1	1	1	1
32nd Air Defense Squadron	3rd Air Defense Wing HQ	1	1	1	1	1	1	1
33rd Air Defense Support Squadron	3rd Air Defense Wing HQ	1	1	1	1	1	1	1
Air Combat Training Center	Air & Air Defense Forces Command	1	1	1	1	1	1	1
Air Defense Training Center	Air & Air Defense Forces Command	1	1	1	1	1	1	1
Recreation Center Air	Air & Air Defense Forces Command	1	1	1	1	1	1	1

Figure 7-30. Report Results Showing Changes to 13th Attack Squadron

Notice that the Units are listed in the order they appear in the administrative organization structure. This is a result of keeping the Command Order field (the field width has been reduced such that the name cannot be read) as the first field (column) in the rows area. If we remove this field so that the first column is the Unit name, the data appear in alphanumeric order based on the Unit's name(s), as shown in Figure 7-31.

Unit Name	Parent Unit Name	2007	2008	2009	2010	2011	2012	2013
11th Attack Squadron	1st Attack Wing HQ	1	1	1	1	1	1	1
12th Attack Squadron	1st Attack Wing HQ	1	1	1	1	1	1	1
13th Attack Squadron	1st Attack Wing HQ	1	1	1				
	2nd Fighter Wing HQ				1	1		
13th Ground Support Squadron	2nd Fighter Wing HQ						1	1

Figure 7-31. Report Results Without Command Order Field

The width of any field such as Unit Name or Parent Unit Name can be increased or decreased using standard drag techniques.

Other options for this report include the ability to indent the Unit name to make the organizational structure clearer (see radio buttons in Figure 7-32). This can be done using either spaces (as shown in Figure 7-33) or vertical lines (as shown in Figure 7-34).

Figure 7-32. Radio Buttons for Indent Functionality

.	Unit Name	Parent Unit	2007	2008	2009	2010	2011	2012	2013
01	Ministry of Defense	None	1	1	1	1	1	1	1
01	General Staff	Ministry of Defense	1	1	1	1	1	1	1
01	Land Forces Command HQ	General Staff	1	1	1	1	1	1	1
01	1st Corps HQ	Land Forces Command HQ	1	1	1	1	1	1	1
01	11th Infantry Brigade	1st Corps HQ	1	1	1	1	1	1	1
01	12th Infantry Brigade	1st Corps HQ	1	1	1	1	1	1	1

Figure 7-33. Unit Name Indented with Spaces

.	Unit Name	Parent Unit	2007	2008	2009	2010	2011	2012	2013
01	Ministry of Defense	None	1	1	1	1	1	1	1
01	|_ General Staff	Ministry of Defense	1	1	1	1	1	1	1
01	| |_ Land Forces Command HQ	General Staff	1	1	1	1	1	1	1
01	| | |_ 1st Corps HQ	Land Forces Command HQ	1	1	1	1	1	1	1
01	| | | |_ 11th Infantry Brigade	1st Corps HQ	1	1	1	1	1	1	1
01	| | | |_ 12th Infantry Brigade	1st Corps HQ	1	1	1	1	1	1	1

Figure 7-34. Unit Name Indented with Vertical Lines

Note: Examples in Figure 7-29 through Figure 7-31 had "No Indent" selected.

Using FOCIS Pivot Table Report Windows

Introduction to FOCIS Pivot Table Reports

With the exception of the Units by Year report, FOCIS reports are available as pivot tables. Each of these reports uses the same general type of window and is supported by the same tools for designing, modifying, and saving reports. This section describes the functions of FOCIS pivot tables that apply to the pivot table reports in categories other than the Unit Information category.

The pivot table reports share a common window layout, as shown in Figure 7-35.

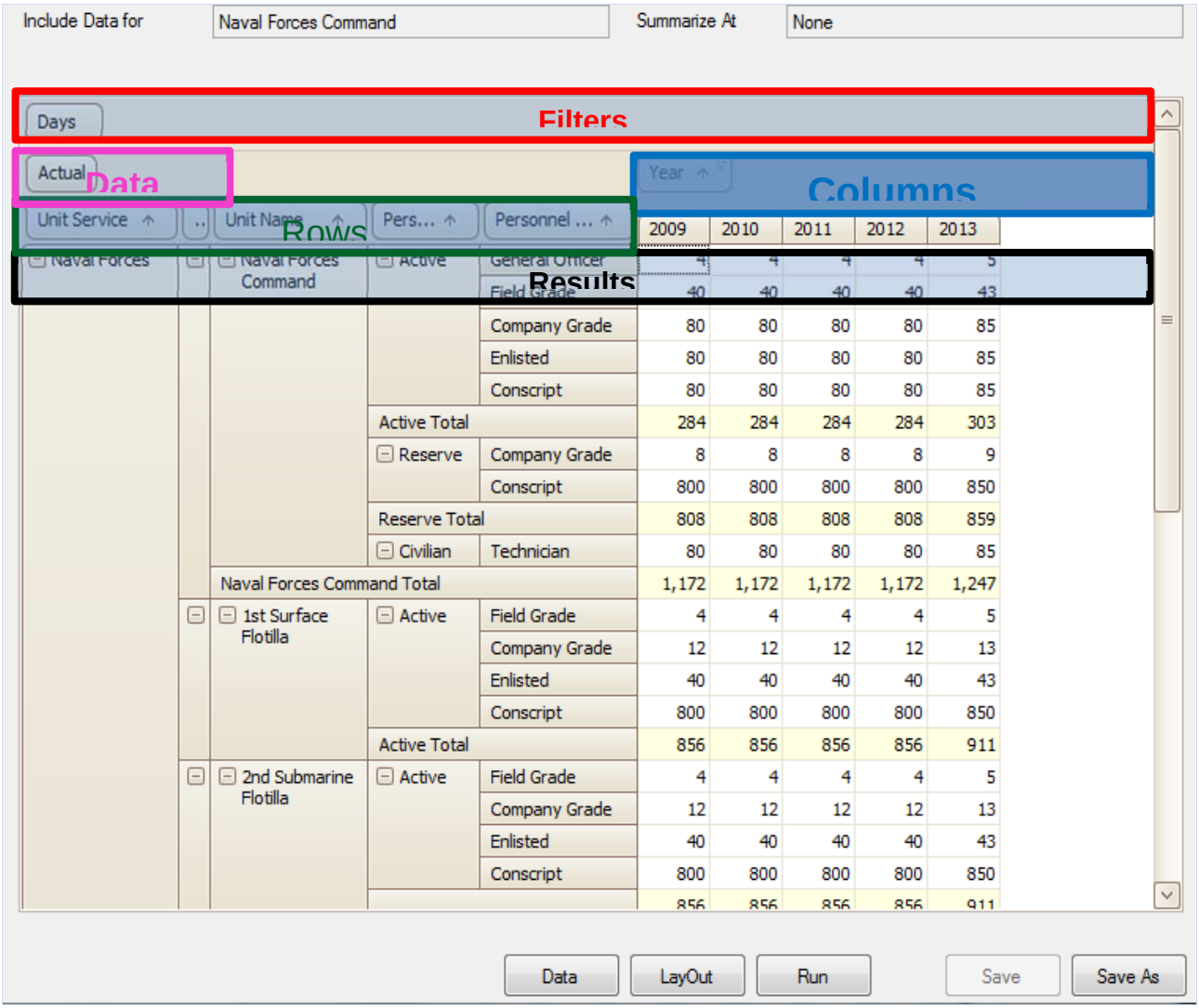


Figure 7-35. Common Pivot Table Window Layout

At the top of the window is the name of the top Unit whose data are included in the report. This top Unit and the summary level were selected in the Report Data window, which is opened by clicking the **Data** button at the bottom. If the report contains cost data, there is also a label (Constant price of 2007 or Costs with inflation) that documents whether the costs are constant prices or include inflation, once the report is generated by clicking the **Run** button. An example is shown in Figure 7-36.

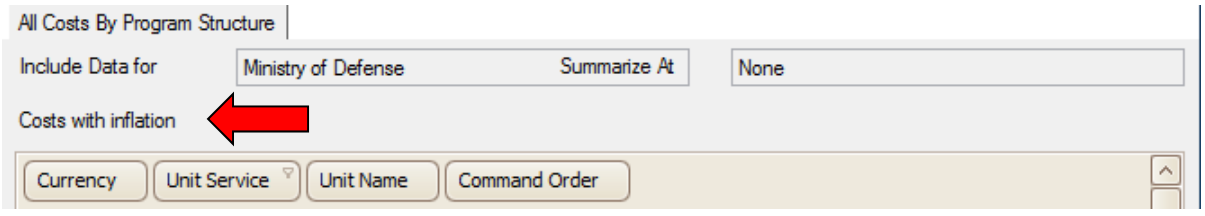


Figure 7-36. Sample Cost Label on Report (Red Arrow)

The **Data** and **LayOut** buttons at the bottom of the main Report window (Figure 7-37) open secondary windows that control which Units and what types of Resource and Cost data are included (**Data**) as well as what fields (**LayOut**) appear in the rows, columns, and filters areas. The bottom of the window also contains the **Run** button and the buttons used to save changes to a report (**Save**) or create a new report (**Save As**). Each of these functions is described in later sections of this chapter.

Figure 7-37. Button Row at Bottom of Pivot Table Window

Using the Report Data Window

FOCIS allows you to select the data included in a report through the Report Data window. You select the types of Unit Resources or Cost data, the Units whose data will be included, and the year range. The Report Data window also allows the inclusion of inflation in cost data, the presentation of both Budgeted and Full costs in cost reports, or the comparison of data from two different Positions. If desired, data can be summarized to a selected Command Level. Figure 7-38 shows the Report Data window.

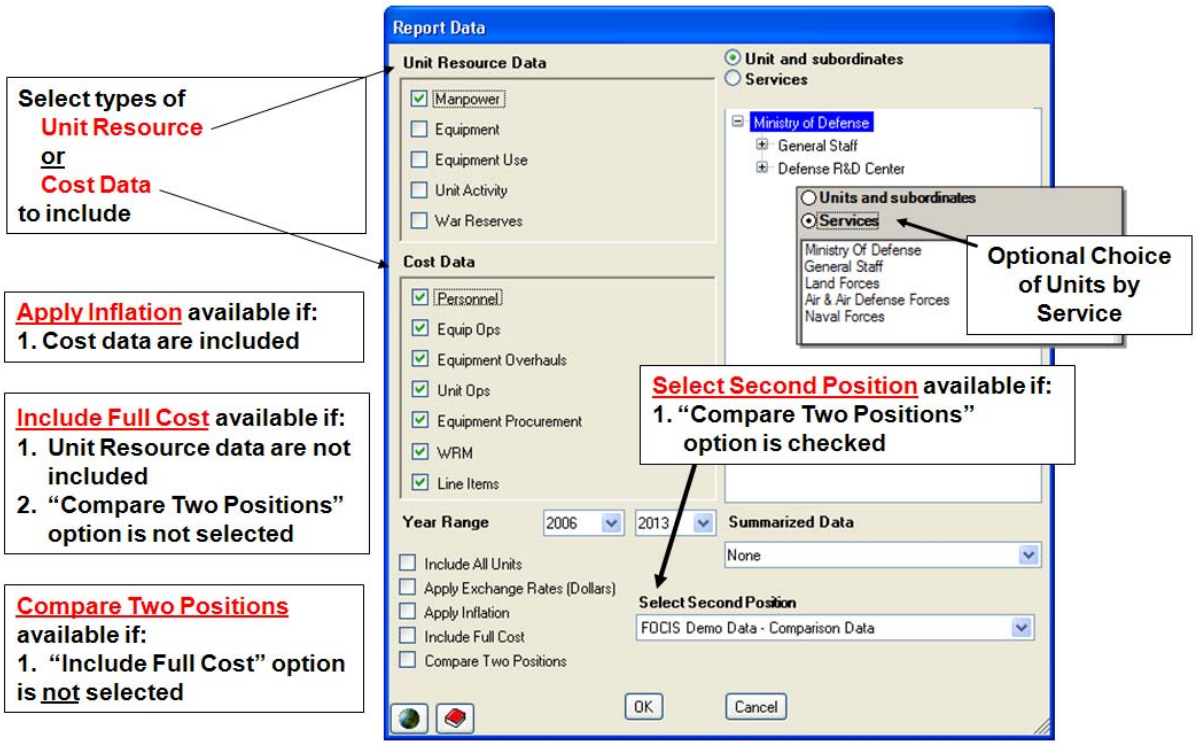


Figure 7-38. Report Data Window Showing All Options

Reports can include any combination of Unit Resources or any combination of Cost data.

Reports that include more than one Unit Resource are saved as Multiple Resource reports. You can select a report that was designed for a single Resource such as Manpower, open the

Report Data window, and select the Equipment check box, and the report will contain both Manpower and Equipment data. If this report is saved (using **Save** or **Save As**), it will appear under the Multiple Resource heading in the list of reports.

Reports that contain both Resource and Cost data are saved as Special Reports.

The Year Range fields are used to select a subset of the available years, which can be used to significantly reduce the total amount of data extracted from the database and speed up the report preparation in large databases.

Applying Inflation to Cost Data

If Cost data are included, the Apply Inflation check box can be used to control whether inflation is applied to costs. When this check box is not selected, the Cost data shown in the report are in terms of constant prices. The base year for constant prices is set when the cost calculation is run.

Including Both Budgeted and Full Cost Data

If the **Include Full Cost** check box is not selected, then the data in a cost report are the Budgeted costs. Budgeted costs are the results of the cost calculation after Funding Levels are applied (See Chapter 5, Cost Data). FOCIS also saves the data from the cost calculation prior to applying Funding Levels, and these data are called the Full cost results. Reports can be set up to include both the Full and Budgeted costs by selecting the **Include Full Cost** check box. When this option is selected, the reports will include data for Full and Budgeted costs as well as the Difference (Full minus Budgeted costs).

When the **Compare Two Positions** check box is selected, the **Include Full Cost** check box is disabled.

Note: "Full" costs are the costs that are calculated before using the Annual Funding Level data for Personnel, Equipment and Unit Operations, and Overhaul Costs, and also include the Desired funding for each Budget Line Item. Both "Full" and "Budgeted" costs are based on **Actual** quantities of Unit Resources. To see estimates of costs based on Authorized or Desired levels of Unit Resources, create a new Position, use the Unit Resource Adjustment windows to set all Actual equal to 100% Authorized option, and re-run the cost calculation.

Comparing Data from Two Position Databases

The Report Data window also allows you to create reports that include data from two Positions. When the **Compare Two Positions** check box is selected, a Select Second Position field appears that allows you to choose any Position except the currently open Position from a drop-down list. Reports with two Positions include data that is labeled "Open Position," "Other Position," and "Difference" (Open minus Other).

When the **Include Full Cost** check box is selected, the **Compare Two Positions** check box is disabled.

Including MC Rate Information

If mission capable rate (MC Rate) data were included in the Equipment Resource information, they can be included in the report.

Using Pivot Tables with Multiple Data Items

When either the **Include Full Cost** or **Compare Two Positions** check box is selected, the pivot table Data Area (see Figure 7-35) shows the three data types that are available (Figure 7-39):

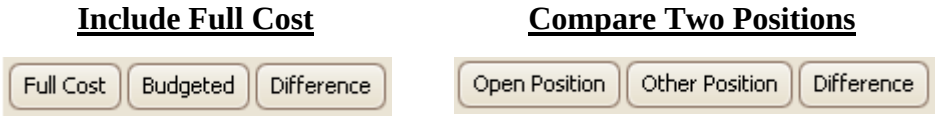


Figure 7-39. Available Data Types by Option

To exclude any of these, drag any data field type from the Data Area to the Filter Area of the pivot table. To change the order in which they are displayed in the report, drag the items into the desired order in the Data Area. When either the **Include Full Cost** or **Compare Two Positions** option is chosen, a new field is added to the pivot table that is used to control whether the three data types are used as rows or columns.

If **Include Full Cost** is selected, the new data field is labeled "Cost Type." If **Compare Two Positions** is selected, the data field is labeled "Position." This new "Cost Type" or "Position" field can be used as a row or column. Examples are shown in Figure 7-40 and Figure 7-41.

The order in which the three sub-fields are shown is controlled by the order they appear in the Data Area of the pivot table. The order is changed using the same drag-and-drop method used to move other data fields. In Figure 7-40, the order in the Data Area is "Budgeted," "Full Cost," and "Difference," while in Figure 7-41, it has been changed to "Full Cost," "Budgeted," and "Difference." The report layouts were changed from showing the full, budgeted, and cost difference data as columns to showing the data as rows, by dragging the field label "Cost Type" from the column area to the row area.

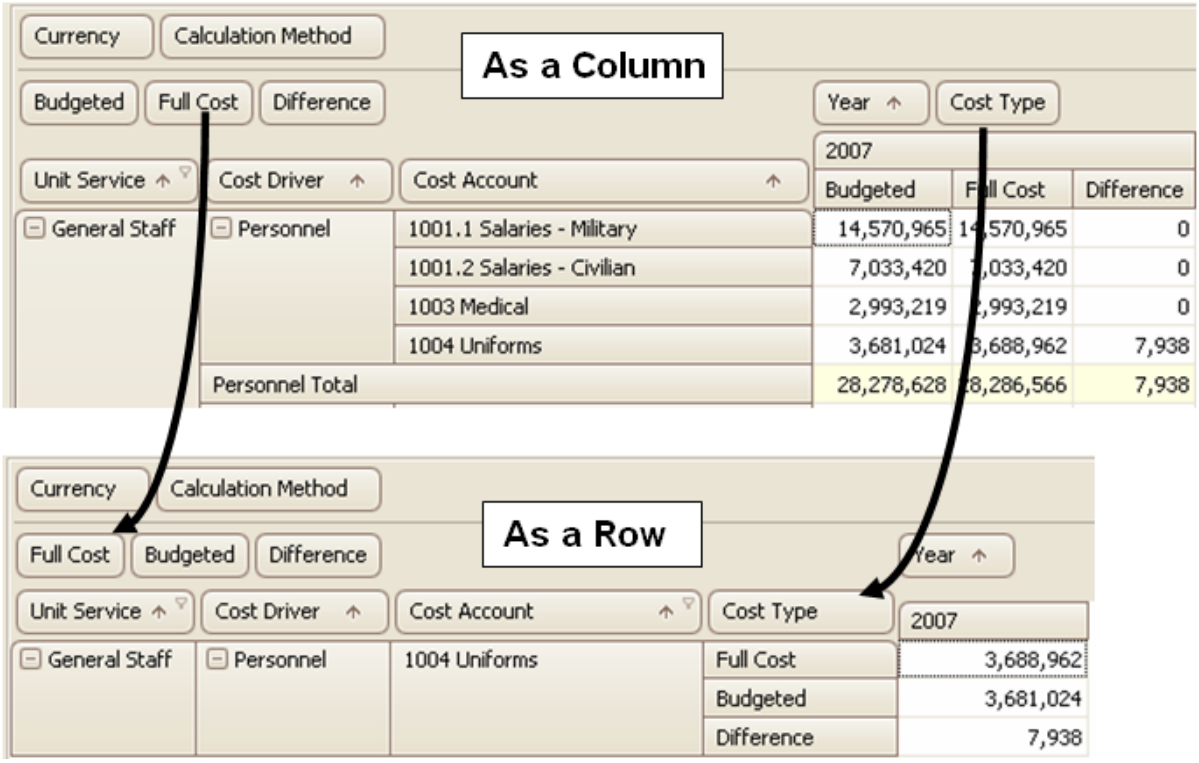


Figure 7-40. Column and Row Areas – Example #1

When comparing two positions, the "Open Position," "Other Position," and "Difference" data fields set the order these data are shown in the columns or rows. Moving the "Position" data field from the Column Area to the Row Area changes the report layout as shown in Figure 7-41.

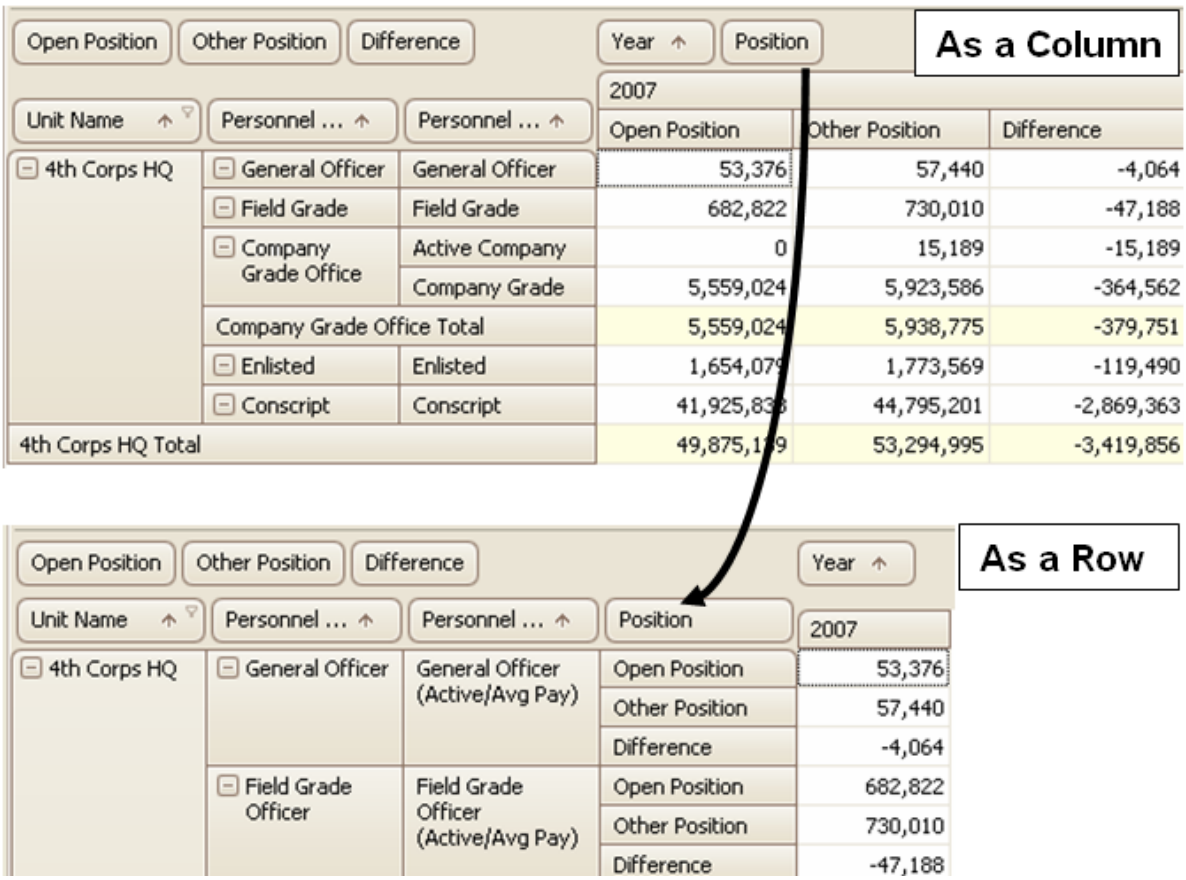


Figure 7-41. Column and Row Areas – Example #2

Choosing the Units to Include in Report Data

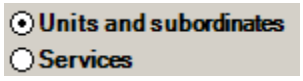


Figure 7-42. "Units to Include" Options

The right-hand side of the Report Data window is used to select the Units whose data are included. This is done by choosing one of the radio buttons shown in Figure 7-42. When you choose the **Unit and subordinates** option, the area below the radio buttons displays a Unit organization tree and the report will include the Unit you select and all Units below it. When you choose the **Services** option, the organization tree is replaced by a list of Services and you can select one or more. When the **Services** option is chosen, the Include Data For field on the main Report window shows a list of the Services selected instead of the top Unit selected.

Summarizing Report Data

FOCIS can display the data in a report to show Unit data summarized to a selected Command Level. The Summarized Data field (Figure 7-43) is used to select a Command Level and to cause the data to be summarized at that level. The selected level is displayed at the top of the main Report window. When a Summary Level is selected, FOCIS adds the data for all Units below the selected level to the data in the Units at this level. For example, if data are summarized to Division/Wing level, the data for all Units within each Division are added together and shown as summary totals for each Division.

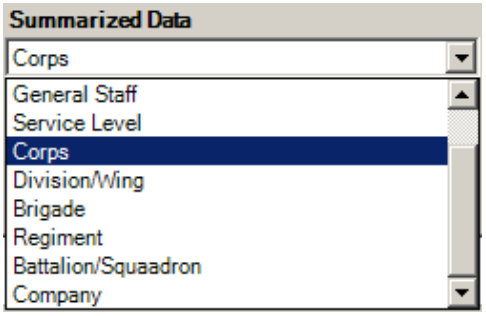


Figure 7-43. Summarized Data Field

Figure 7-44 illustrates what the Summarized Data function does. The example uses Manpower as the Unit Resource, the Land Forces Command HQ as the top Unit, and **Corps** as the Summary Command Level, selected in Figure 7-43. The resulting report is shown in Figure 7-44. Notice only Units at the Corps Command Level and above are shown.

Include Data for: Land Forces Command HQ Summarize At: Corps

Data Type | Resource Label 1 | Resource Label 2 | Personnel Type | Unit Service

Amount | Year

.	Unit Name	Command Level	2013	2012	2011	2010	2009	2008	2007
⊟	⊟ Land Forces Command HQ	Service Level	7,140	7,133	7,133	7,133	7,108	7,096	7,090
⊟	⊟ 1st Corps HQ	Corps	6,958	6,545	6,545	6,545	6,545	5,734	5,734
⊟	⊟ 2nd Corps HQ	Corps	6,332	6,332	6,332	6,332	5,904	5,904	5,487
⊟	⊟ 3rd Corps HQ	Corps	5,052	5,052	5,052	5,052	4,213	4,213	4,213
⊟	⊟ 4th Corps HQ	Corps	8,441	8,441	8,441	8,441	8,441	8,441	8,441
Grand Total			33,923	33,503	33,503	33,503	32,211	31,388	30,965

Figure 7-44. Report with Data Summarized at Corps Command Level

If the Summarized Data field is set to **None**, Unit Name is included in the layout, and the report is re-run, the data for each individual Unit would be available to be displayed in the report.

The summary function works as follows:

10. FOCIS checks to see if any data are included in the report for Units below the selected Command Level. If not, the summary process is complete.
11. If FOCIS finds data associated with Units that have the lowest Command Level in the data, it changes the Unit association of those data so that the data are now associated with that Unit's parent Unit.

12. Step 1 is repeated.

In Figure 7-44, the Manpower of the Artillery Training Center and the Armor Training Center was included in the Land Forces HQ Manpower because the summary level was set to **Corps**. Notice in Figure 7-45 that the two Centers both have a Command Level of Battalion/Squadron, which is below Corps level, so they do not appear as Units in the summarized data. The summarization process added the two Centers' Manpower to their parent's Manpower data.

Parent Unit Name	Unit Name	Command Level
Land Forces Command HQ	1st Corps HQ	Corps
1st Corps HQ	11th Infantry Brigade	Brigade
1st Corps HQ	12th Infantry Brigade	Brigade
1st Corps HQ	13th Armored Brigade	Brigade
1st Corps HQ	15th Infantry Brigade	Brigade
1st Corps HQ	1st Artillery Brigade	Brigade
1st Corps HQ	1st Corps Support Brigade	Brigade
1st Corps HQ	1st Mil. Police Company	Company
Land Forces Command HQ	Artillery Training Center	Battalion/Squadron
Land Forces Command HQ	Armor Training Center	Battalion/Squadron

Figure 7-45. Artillery and Armor Training Centers' Parent Unit and Command Level

Because data are moved into each Unit's parent, some data may show in Units above the selected Command Level. This occurs when the there is no Unit with the selected Command Level in the chain of command of that Unit. In these cases, the data for those Units are included in a higher level organization.

Using the Report Layout Window

The Report Layout window is used to select the fields that appear in the report. Open this secondary window by clicking the **LayOut** button at the bottom of the main Report window. The content of the Report Layout window varies based on the types of data chosen in the Report Data window. When all types of Costs and Unit Resource data are included in the report, the Report Layout window will look similar to Figure 7-46.

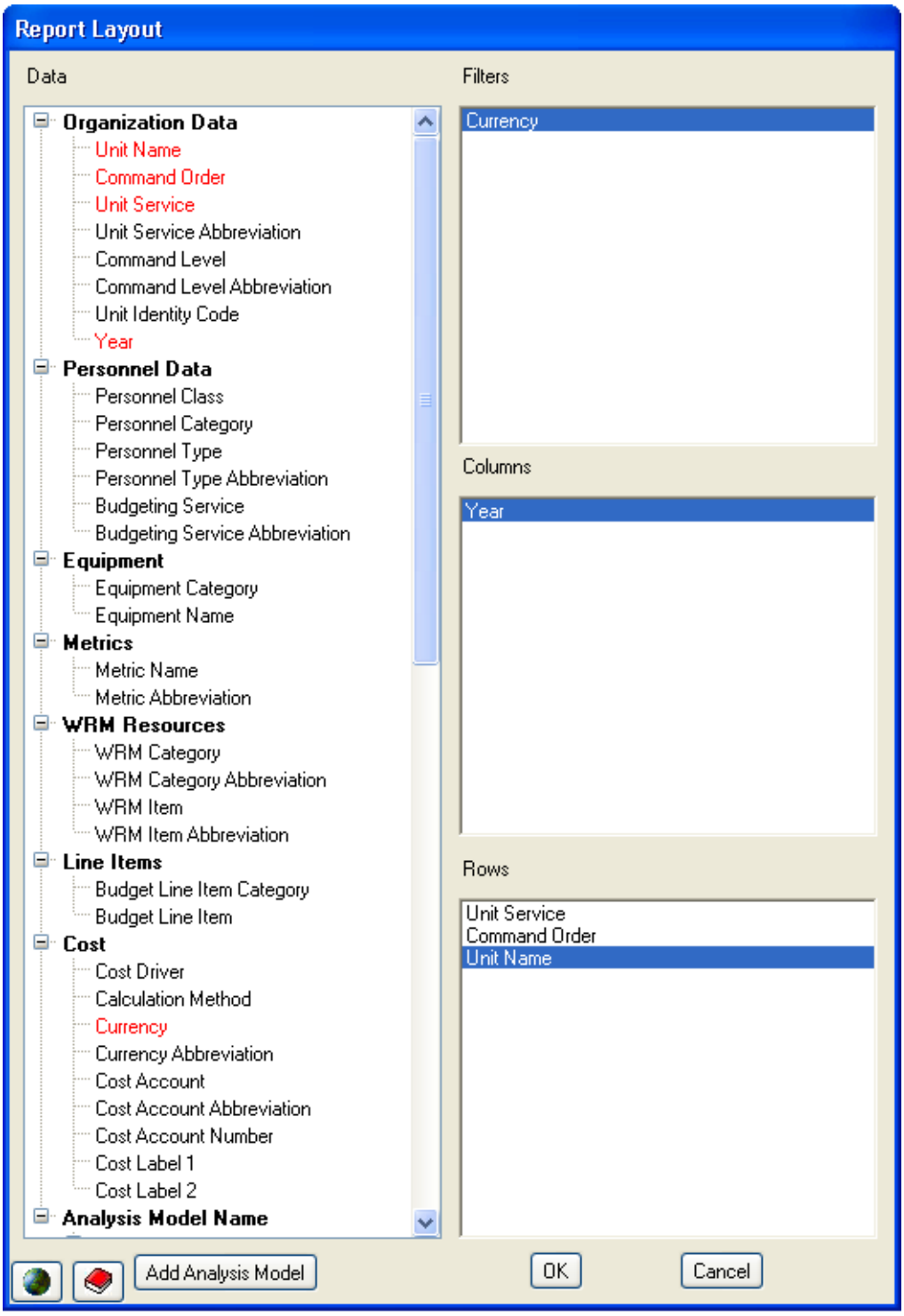


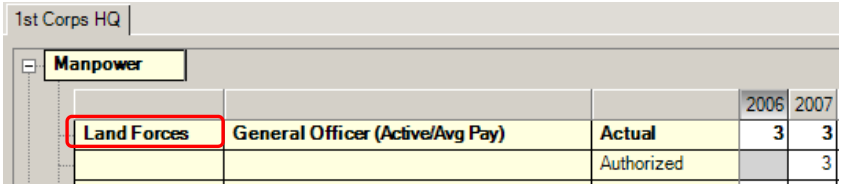
Figure 7-46. Report Layout Window

In Figure 7-46, fields that have been used as filters, columns, or rows appear on the left in red text. Unused fields are in black text.

The following notes describe some of the fields that may not be immediately recognized. The **General** category of fields discussed below does not appear in all reports.

Table 7-1. Layout Field Descriptions

<table>
<tr><th>Field Category</th><th>Field Name</th><th>Description/Purpose</th></tr>
<tr><td rowspan="4">General</td><td>Resource Type</td><td>This field has the values Manpower, Equipment, Equipment Use, Unit Activity, and War Reserves that correspond with each Unit Resource that can be included. The field is especially useful when multiple types of resources are included in the same report.</td></tr>
<tr><td>Data Type</td><td>This field appears with Comparison Reports and has values (e.g., Actual, Authorized, etc.) that describe each type of data that may appear with a Unit Resource and an entry that allows you to include percentage (Actual/Authorized) in reports. When used as a filter, make sure to select only one data type; otherwise, the results may include values that are not meaningful (e.g., Actual + Authorized).</td></tr>
<tr><td>Data Item</td><td>This field appears with Unit Resource reports. It appears as a row or column field and controls where the data types like Actual, Authorized, and Fill % appear in the report layout. Control of which Data Items appear in the report is achieved by moving individual Data Item entries (e.g., Actual, Authorized, etc.) to and from the Data Area of the pivot table layout.</td></tr>
<tr><td>Resource Label 1 & 2</td><td>These fields represent the names that identify each data entry.
<table>
<tr><th>Resource Area</th><th>Resource Label 1</th><th>Resource Label 2</th></tr>
<tr><td>Manpower</td><td>Personnel Type</td><td>Budgeting Service</td></tr>
<tr><td>Equipment</td><td>Equipment Name</td><td>(not used)</td></tr>
<tr><td>Equipment Use</td><td>Equipment Name</td><td>Metric Name</td></tr>
<tr><td>Unit Activity</td><td>(not used)</td><td>Metric Name</td></tr>
<tr><td>WRM</td><td>WRM Name</td><td>(not used)</td></tr>
</table></td></tr>
<tr><td rowspan="2">Organization Data</td><td>Command Order</td><td>This is a FOCIS-generated code that, when used in a report immediately prior to Unit Name, causes the Units to be listed in the same order as they appear in the organization tree. When omitted from reports with the Unit Name field, the Units appear in alphanumeric order.</td></tr>
<tr><td>Unit Service</td><td>The Service assigned to a Unit in the Unit Organization data.</td></tr>
</table>

Field Category	Field Name	Description/Purpose
Organization Data (cont.)	Budgeting Service	The Service whose budget pays for Manpower expenses. The Budgeting Service is identified based on how Manpower data are entered in each Unit's data. The Budgeting Service is the Service that appears in the first column of the Unit Resource display for Manpower (Land Forces in Figure 7-47 below).  **Figure 7-47. Budgeting Service in Unit Resource Display**

The Budgeting Service is the Service whose budget pays for the person and need not be the same as the Unit Service.

Fields are moved in the Report Layout window using drag-and-drop techniques common to the Microsoft Windows operating system. Click on the object to be moved and hold down the left mouse button while moving the mouse. When the field being moved has arrived where desired (Filters, Columns, or Rows box), release the button. You can move fields between the three boxes, change the order in which the fields appear, or remove a field by dragging it from the Filters, Columns, or Rows box back to the Data box on the left side of the window.

It is a good idea to include only fields that you intend to actually use in the report. FOCIS has several steps that it must complete to convert the raw data into a format that is useful in a report. The more data and data detail included in the field layout, the more time FOCIS must take to prepare the data.

Types of Pivot Table Reports

The menu that appears in the navigation pane of the Reports Work Area (Figure 7-48) shows many different types of reports. These menu items provide an easy way to find one of the existing reports based on the content of the report. Reports that include Unit-only Manpower, Equipment, Equipment Use, Unit Activity, or War Reserve data appear in one of the report categories with the same name. Reports with only Cost data appear under the Cost category. Any report that includes a combination of two or more of the Manpower, Equipment, Equipment Use, Unit Activity, or War Reserve types of data appear in the Multiple Resources category.

Figure 7-48. Reports Menu

FOCIS also has reports that contain combinations of Unit Resources (Manpower, Equipment, Equipment Use, Unit Activity, or War Reserve data) and Cost data. Any such reports appear in the Special Reports category.

Special Reports

The reports that appear in the Special Reports category all have unique features. This section describes the unique characteristics of these reports.

Manpower and Costs Report

The Manpower and Costs report provides you with the ability to create pivot tables with Unit Manning and their associated Personnel costs in the same output. The Standard Manpower and Costs Report layout is shown in Figure 7-49.

Manpower and Costs

Include Data for: Ministry of Defense | Summarize At: None

Constant price of 2005

Currency | Budgeting Service | Days | Total Days | Full Cost | Avg Full | Personnel Type Abbreviation | Cost Account Abbreviation

Actual Manpower | Budgeted | Avg Budgeted | Year | Data Item

Unit Servi...	..	Unit Name	Personnel Class	2010 Actual Manpower	2010 Budgeted	2010 Avg Budgeted
LF		Land Forces Command HQ	Active	*3,188*	17,734,584	5,563
			Reserve	*120*	17,064	155
			Civilian	*100*	3,393,000	33,930
		Land Forces Command HQ Total		***3,408***	**21,144,649**	**6,223**
		1st Corps HQ	Active	*43*	362,010	8,419
			Reserve	*160*		
		1st Corps HQ Total		***203***	**362,010**	**8,419**
		11th Infantry	Active	*1,306*	7,544,501	5,777
		12th Infantry Brigade	Active	*1,306*	7,544,501	5,777
			Reserve	*80*	3,940	49
		12th Infantry Brigade Total		***1,386***	**7,548,441**	**5,446**

Figure 7-49. Standard Manpower and Costs Report Layout

The Standard Report shows:

- Actual unit manning (Actual Manpower column),
- Budgeted cost (Budgeted column), and
- Average budgeted cost (Avg Budgeted column),

summarized by Personnel Class and grouped by Unit and Unit Service for a single year. This report can also show the training days for Manpower in the “Reserve” Personnel Class. Since the costs of Reserve Manpower are based on a combination of the actual number of Manpower and the training days, FOCIS also provides the ability to include Total Days in reports. Total Days is the product of the actual Manning and days.

Other standard reports that include both Unit Resource data and Cost data will be listed under the Special Reports category.

Using Report Tools

Using Analysis Models with Reports

For any information system to be useful to commanders, managers, or analysts, it must provide information in ways that relate directly to their interests. Unfortunately, the characteristics of the raw data in most databases, including FOCIS, are too detailed to satisfy the general interests of important senior users. These databases need additional tools to organize and summarize the raw data into useful information. FOCIS provides you with the capability to organize and summarize data into useful categories and analytic frameworks through its Analysis Models and Reports windows (See Chapter 6). FOCIS calls these analytic frameworks "Models."

Models are user-designed, multi-level structures made up of categories. A simple example of a FOCIS Model is a mission structure in which users decide how to describe the missions of the defense establishment and then associate individual Units with each mission. Having done this, many types of data (e.g., Cost, Manpower, Equipment fill rates) can be viewed in terms of the mission categories. Because FOCIS retains access to the details within each category, commanders, managers, and analysts can dig into the details within the missions when they are of interest, or information can be simply reported by mission.

Models are added to a report using the Report Layout window. At the bottom of the Report Layout window is an **Add Analysis Model** button. When clicked, it opens a list that shows all existing Models except those already used with the report that is in use. Select one of the Models and click **OK** to add that Model to the list of fields available to add to the layout (Figure 7-50).

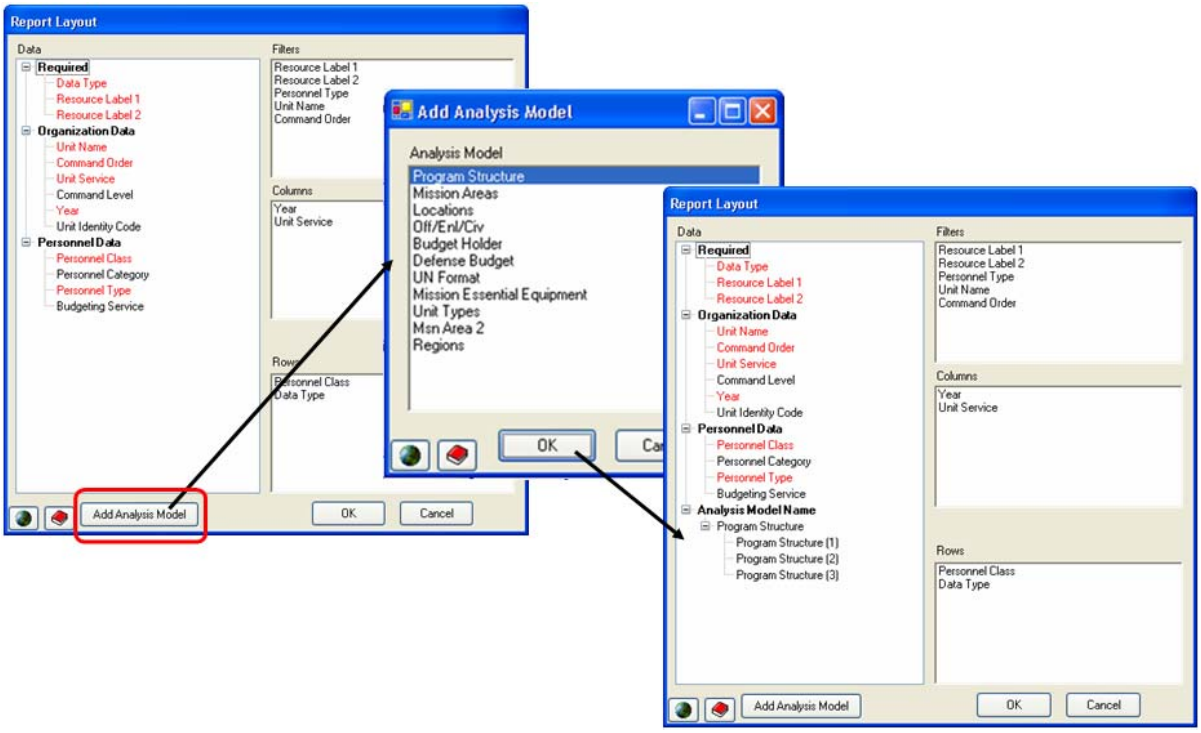


Figure 7-50. Sequence of Steps to Add an Analysis Model to a Report Layout

Having added the Program Structure Model to your report, as shown in Figure 7-50, notice that under the Program Structure name in the Report Layout window, there are three subordinate items: Program Structure (1), Program Structure (2), and Program Structure (3). These correspond to the levels of the Program Structure Model. Figure 7-51 illustrates this, showing both the Report Layout window and the Program Structure Model.

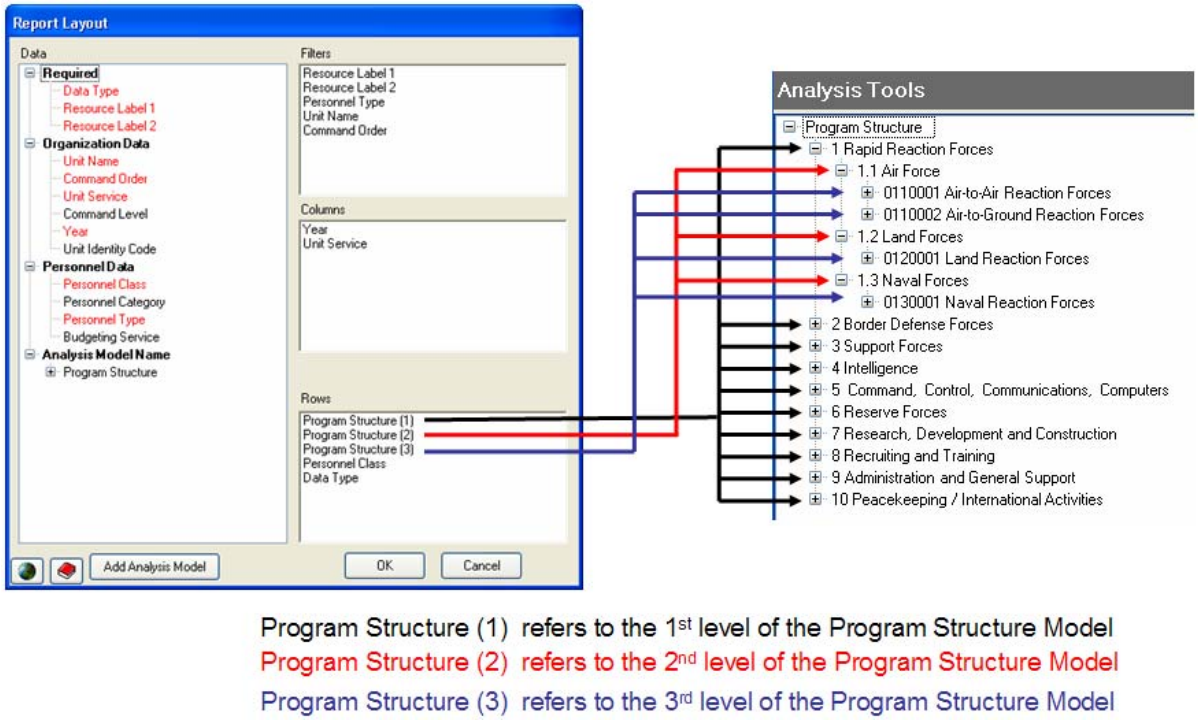


Figure 7-51. Report Layout Window and Corresponding Structure Model

You add levels of the selected Model to the report by dragging and dropping the Model levels you want to use into the Filters, Columns, or Rows box as shown in Figure 7-52.

Note: If, after you have dragged a Model level to one of the boxes, you decide not to assign it to any box, right-click on the level name in the Data (left) box and select **Delete** from the shortcut menu.

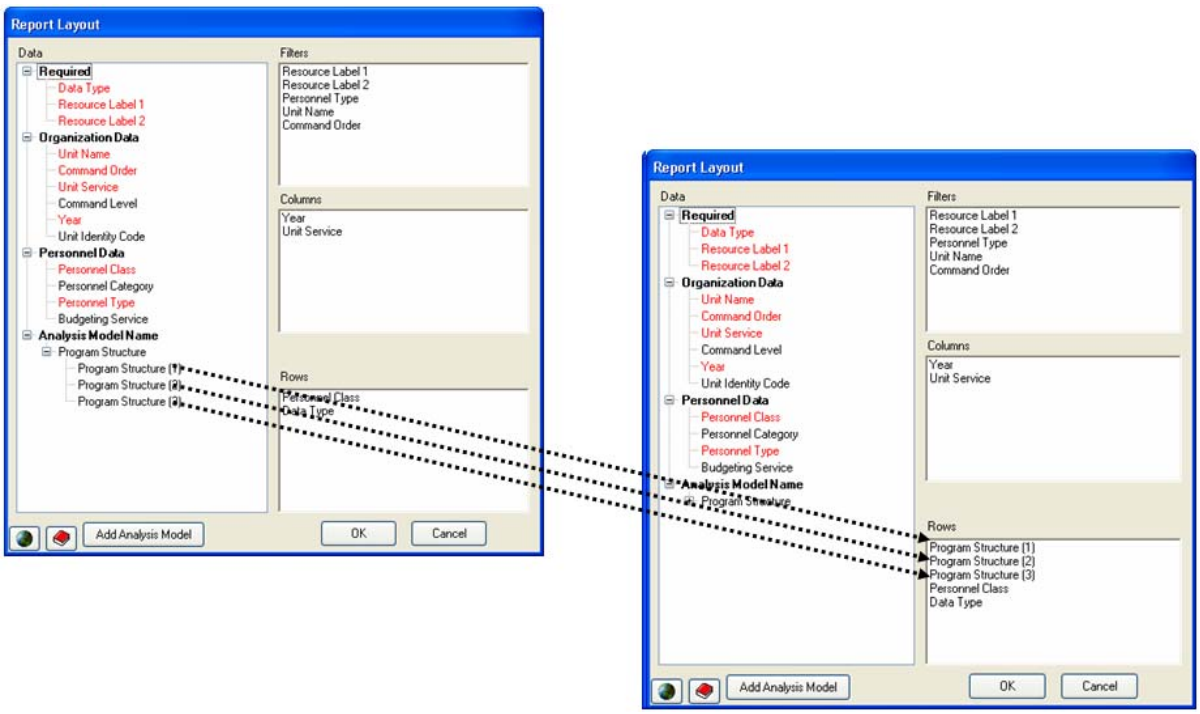


Figure 7-52. Report Layout after Dragging and Dropping Model Levels

A Manpower report using the Program Structure Analysis Model is shown in Figure 7-53.

Program Structure (1)	Program Structure (2)	Program Structure (3)	Personnel ...	Data Type	2013	2012	2011
1 Rapid Reaction Forces	1.1 Air Force	0110001 Air-to-Air Reaction Forces	Active	Actual Personnel	1,658	1,605	1,605
				Authorized	2,070	2,070	2,070
			Active Total		3,728	3,675	3,675
		0110002 Air-to-Ground Reaction Forces	Active	Actual Personnel	2,253	2,117	2,117
				Authorized	2,645	2,645	2,645
			Active Total		4,898	4,762	4,762
	1.1 Air Force Total				8,626	8,437	8,437
	1.2 Land Forces	0120001 Land Reaction Forces	Active	Actual Personnel	5,200	4,889	4,889
				Authorized	6,109	6,109	6,109
			Active Total		11,309	10,998	10,998
			Reserve	Actual Personnel	285	270	270
				Authorized	335	335	335
			Reserve Total		620	605	605
		0120001 Land Reaction Forces Total			11,929	11,603	11,603
	1.3 Naval Forces	0130001 Naval Reaction Forces	Active	Actual Personnel	911	856	856
				Authorized	1,070	1,070	1,070
			Active Total		1,981	1,926	1,926
1 Rapid Reaction Forces Total					22,536	21,966	21,966

Figure 7-53. Sample Manpower Report

It is not necessary to use all levels of a Model when creating a report. Figure 7-54 shows the various report results when using only one level, two levels, and three levels.

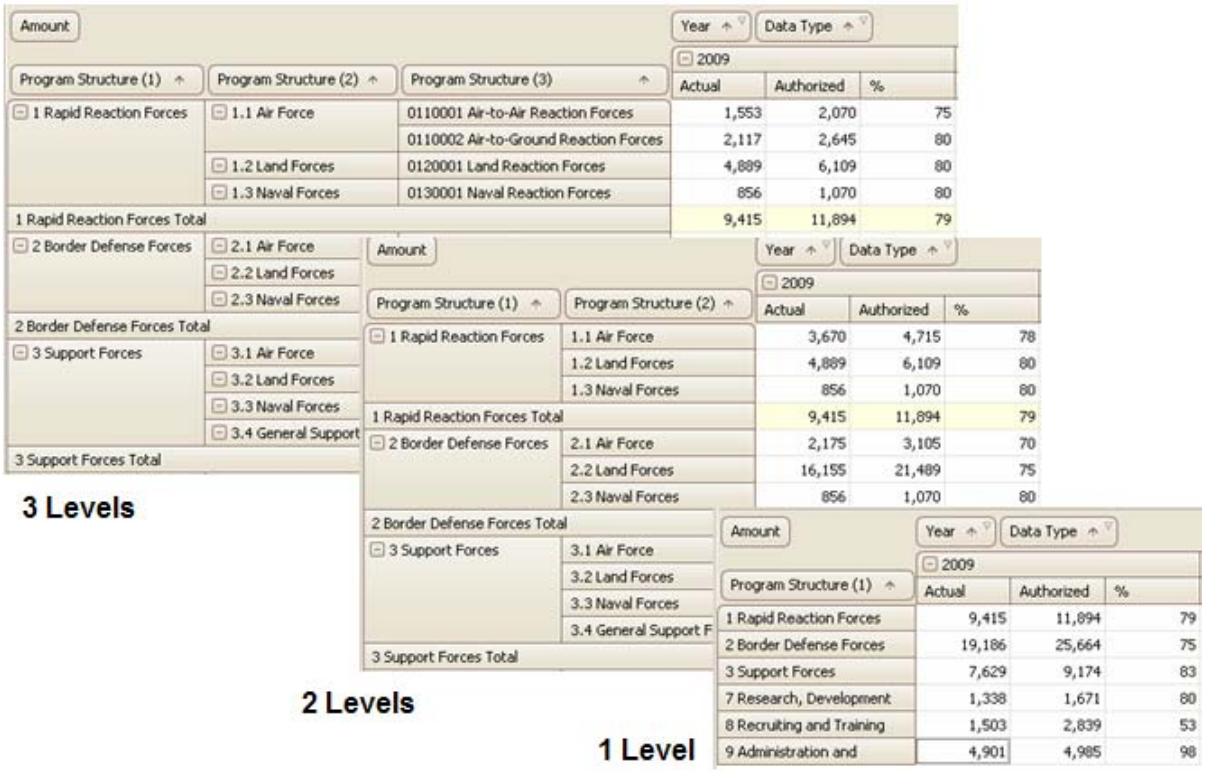


Figure 7-54. Report Results by Levels Included

It is possible and often useful to use multiple Models in a single report. If there were another Model called PersGroups (Personnel Groups) that had top level categories of Officer and Enlisted, and this Model was added to the Layout as shown in Figure 7-55, a report with two levels of Program Structure and one level of Personnel Groups could appear in one report as shown in Figure 7-56.

Figure 7-55. Rows Box on Report Layout Window Using Two Models

Program Structure (1)	Program Structure (2)	PersGroups...	2013	2012	2011	2010
1 Rapid Reaction Forces	1.1 Air Force	Officer	98	89	89	89
		Enlisted	3,813	3,633	3,633	3,633
	1.1 Air Force Total		3,911	3,722	3,722	3,722
	1.2 Land Forces	Officer	315	295	295	295
		Enlisted	5,170	4,864	4,864	4,864
	1.2 Land Forces Total		5,485	5,159	5,159	5,159
	1.3 Naval Forces	Officer	18	16	16	16
		Enlisted	893	840	840	840
	1.3 Naval Forces Total		911	856	856	856
1 Rapid Reaction Forces Total			10,307	9,737	9,737	9,737

Figure 7-56. Report Results Using Two Models

Sometimes Models are created that do not have all possible content assigned to some category. For example, a Model could be created for Mission Essential Equipment that purposely did not have every Equipment Item assigned to a category. If this Model were used to produce a report, the Equipment that was not put in a Model category would show up in the report with a FOCIS-added category name of “Unassigned”.

When first run, the report may look like the one shown in Figure 7-57.

Equipment Category	Equipment Name	Major Combat Equipment (1)	2007	2008	2009
APCs/AIFVs	Bradley Fighting Vehicle	Land Combat	5	5	5
	BMP-1	Land Combat	95	95	95
	M-113A1	Land Combat	119	119	119
APCs/AIFVs Total			219	219	219
Cargo & Passenger Vehicle	Sedan	Unassigned	62	62	64
	Light Truck	Unassigned	545	545	555
	Medium Truck	Unassigned	438	438	438
	Ambulance	Unassigned	10	10	10
	40 Passenger Bus	Unassigned	1	1	1
Cargo & Passenger Vehicle Total			1,056	1,056	1,068
Combat Aircraft	A-10	Air Combat	20	20	20
	F-15	Air Combat	33	33	33
Combat Aircraft Total			53	53	53

Figure 7-57. Report Results Showing Equipment in Unassigned Category

Notice all Cargo & Passenger Vehicle Equipment Items have the category name Unassigned under the Major Combat Equipment field heading. If the purpose of having the Major Combat Equipment Model was to be able to select only the Major Combat Equipment, all of the Equipment in the Unassigned category can easily be removed from the report by clicking on the filter icon in the Major Combat Equipment field heading. When the list of data items appears, simply clear that check box, as shown in Figure 7-58, and then click **OK**.

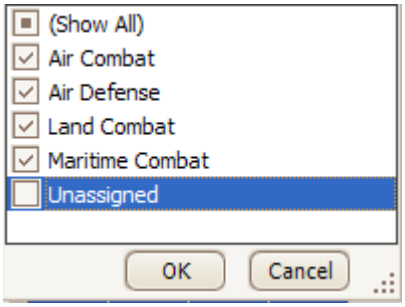


Figure 7-58. Cleared Check Box on Filter Data List

Having made this change and rearranged the fields, the report now contains only the Major Combat Equipment and clearly shows the "Fill Rate" for Major Combat Equipment by individual Equipment Name, subtotaled by Equipment Category, and totaled for all Land Combat (Figure 7-59).

Major Combat Equipment (1)	Equipment...	Equipment...	2008	
			Actual Equipment	% Equipment
Land Combat	APCs/AIFVs	Bradley Fighting	12	100
		BMP-1	95	100
		M-113A1	119	95
	APCs/AIFVs Total		226	97
	Guns/Howitzers	M109 155mm	117	94
	Helicopters	AH-64	11	79
	Rocket	MLRSL	40	95
	Tanks	M-1A1	228	75
		M-1A1 Upgrade	102	100
	Tanks Total		330	81
Land Combat Total			724	89

Figure 7-59. Report Results with Unassigned Items Filtered Out

Model categories can also be used as filters or as columns. In the example in Figure 7-60, the PersGroups Model was used to make the column headers named Officer, Enlisted, and Civilian.

Amount		Year			PersGroups (1)		
		2008			2009		
Program Structure (1)	Program Structure ...	Officer	Enlisted	Civilian	Officer	Enlisted	Civilian
1 Rapid Reaction Forces	1.1 Air Force	81	3,224		88	3,582	
	1.2 Land Forces	262	4,259		295	4,864	
	1.3 Naval Forces	15	735		16	840	
1 Rapid Reaction Forces Total		358	8,218		399	9,286	
2 Border Defense Forces	2.1 Air Force	33	2,142		33	2,142	
	2.2 Land Forces	1,116	16,529		1,116	16,529	
	2.3 Naval Forces	15	735		16	840	
2 Border Defense Forces Total		1,164	19,406		1,165	19,511	

Figure 7-60. Report Results with Model Categories Used as Columns

If the user only wanted to show Officers and Enlisted, the PersGroups field filter could have been used to remove the Civilian column by clearing the Civilian check box in the filter list.

Using Save and Save As

FOCIS provides several standard reports as starting points for creating additional reports. Any report can be modified at any time, but changes cannot be saved to standard reports (red text). When you change a standard report and want to save those changes, use the **Save As** button. When you use **Save As,** a Save Report window will open, where you can enter a name for the new report (Figure 7-61).

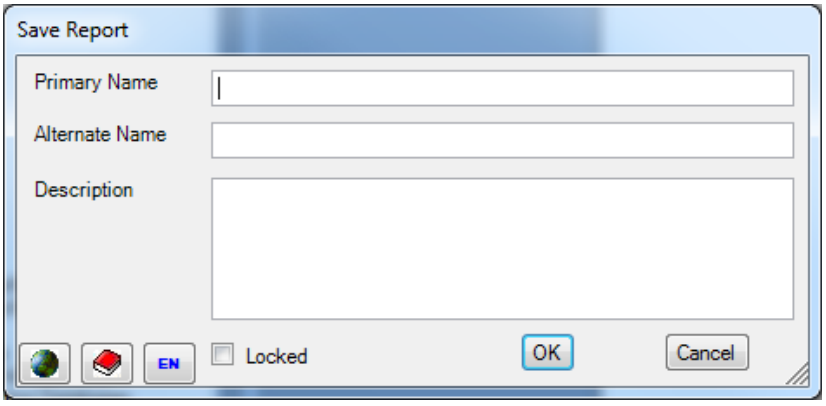
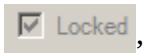


Figure 7-61. Save Report Window

The Primary Name is the one that is displayed when the labels are set to display the Primary labels and the Alternate is the one that shows when the labels are set to Alternate. When entering text into the fields in this window, it is only required to enter a name in either the Primary Name or the Alternate Name text box. You can use **Save As** with any report to create a new one. A description is optional but can be added if desired.

If a report's data structure is modified, using the **Save As** function will cause the newly created report to be saved in the report category that matches the data included when you click the **Save As** button.

The **Locked** check box is visible if you have FOCIS System Administrator permission. If this check box is selected, no one can save changes to the report. Users with System Administrator permission can change the **Locked** status, make changes to the report, and then re-lock the report. Standard reports are permanently locked; they show as **Locked** 

, but the control is disabled and not even users with System Administrator permission can unlock the report.

Reordering the Report List

After creating several new reports, you may find that the reports menu is no longer in an order that is easy to use. You can change the order of the reports within any category by right-clicking any report name and choosing the **Reorder Report** option on the shortcut menu (shown in Figure 7-62). When chosen, the Reorder Report window, shown in Figure 7-63, opens. Change the order by dragging and dropping report names until they are in the order you want to see them in the report list, and then click **OK**.

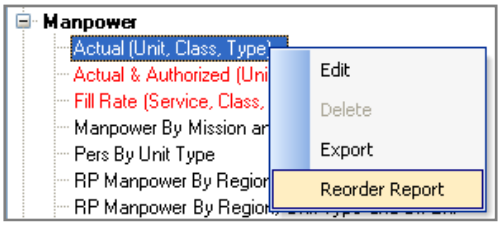


Figure 7-62. Reorder Report Option on Shortcut Menu

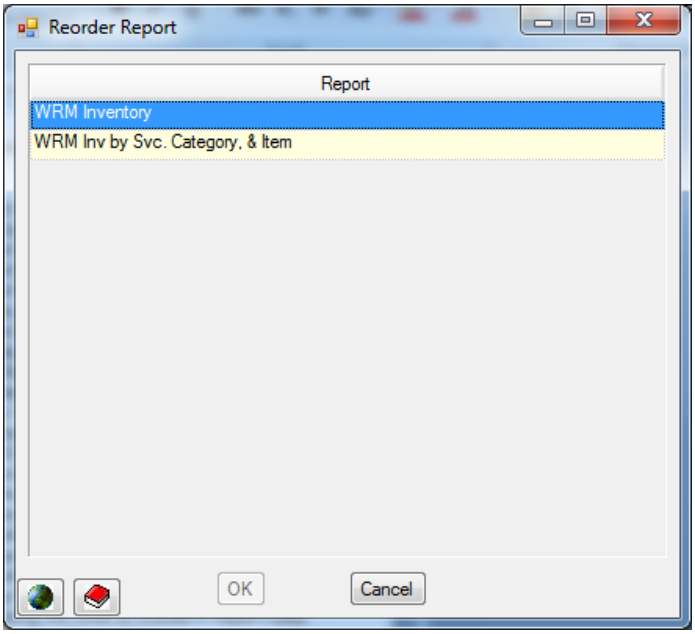


Figure 7-63. Reorder Report Window

Delete Reports

Reports can be removed by right-clicking on the name of the report to be removed and selecting the **Delete** option on the shortcut menu. When the message shown in Figure 7-64 appears, click **OK** to complete the deletion process. Standard reports are protected and cannot be deleted.

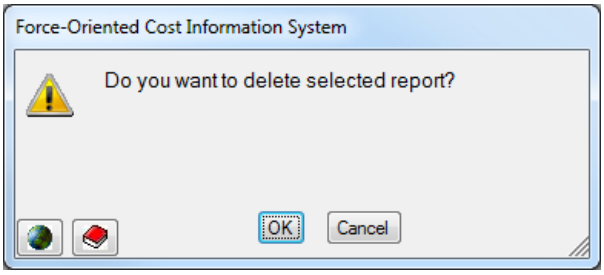


Figure 7-64. Deletion Confirmation Message

Seeing All Report Characteristics

The conditions that control what appears in a report can become complicated. Sometimes the results may not match those we expected and it is difficult to recall how all filters have been set. At other times, you might use a report designed by someone else and want to know exactly what the report contains. FOCIS provides the means to see the report criteria, through the icon that appears next to the **Data** button at the bottom of the main Reports window. Clicking on this icon opens the Report Documentation window (Figure 7-65), showing the settings and data that were used to create the report's content.

The Report Documentation window provides the same information that appears at the end of every Exported report.

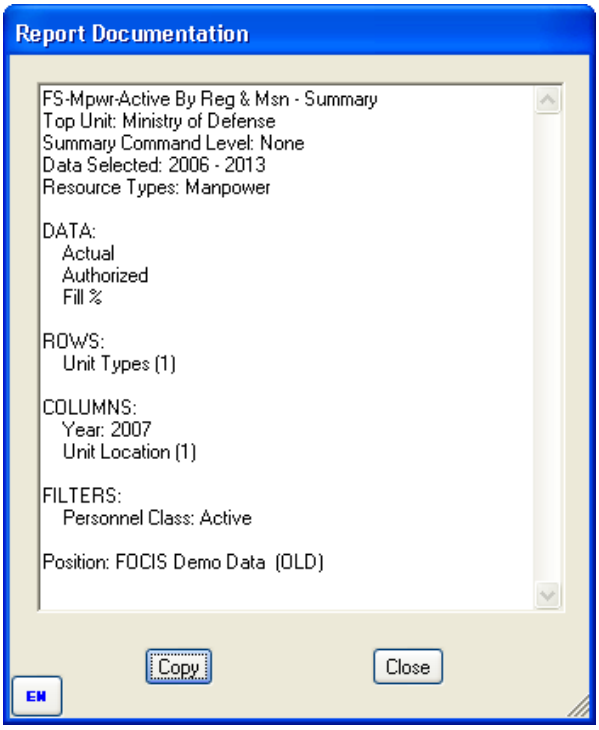
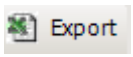


Figure 7-65. Report Documentation Window

- Report Name
- The Top Unit for which data was selected
- Summary Command Level
- The year range of data initially chosen
- The Resource types or Currencies included
- The types of data displayed
- A list of all row data fields
    - Filter conditions for data fields with filters set.
- A list of all column data fields
    - Filter conditions for data fields with filters set *(In the example, Year is filtered to show only 2007 even though the selected data range included 2006-2013)*
- A list of all filter data fields where a filter condition has been set along with their filter settings
- The name of the open Position

You can copy these data and paste them into another document if desired by clicking the **Copy** button. Clicking the **Copy** button places the information on the clipboard. The **Close** button closes the window.

Exporting Report Contents to Excel

Users will often want to create printed versions of reports, add supporting mathematical contents, or convert pivot table outputs into graphs. Each of these actions is started by exporting a report to Excel using the 

icon at the top of the main Reports window.

When you click the **Export** button, the Export Options window shown in Figure 7-66 opens.

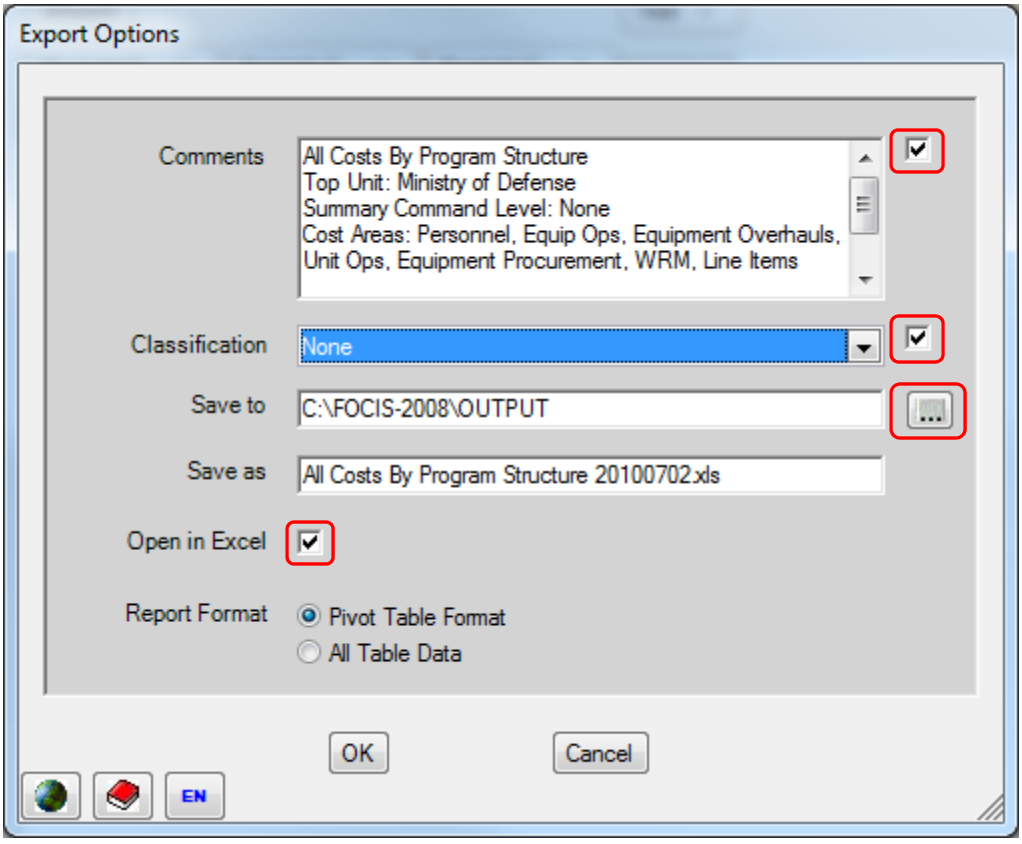


Figure 7-66. Export Options Window

The Comments field shows the text that will be placed at the end of the exported data to fully document each export. This can be omitted from the Excel file by clearing the check box to the right of the Comments field.

The classification can be set to any level using the drop-down selector in the Classification field. This can be omitted from the Excel file by clearing the check box to the right of the Classification field.

The file folder where the export will be placed is shown and can be changed by clicking on the icon.

The default filename, which consists of the report name and the current date, can be edited.

By default, the export file is opened in Excel, but this can be changed by clearing the Open in Excel check box.

Two Report Format options are provided: **Pivot Table Format** and **All Table Data**. The first option (Pivot Table Format) produces a spreadsheet that looks almost identical to the pivot table displayed in the Reports work area, as shown in Figure 7-67.

	A	B	C	D	E	F	G	H	I	J
1	Classification: None									
2										
3	Amount			Year						
4	Program Structure (1)	Program Structure (2)	Program Structure (3)	2007	2008	2009	2010	2011	2012	2013
5	1 Rapid Reaction Forces	1.1 Air Force	0110001 Air-to-Air Reaction Forces	20,155,313	20,307,117	20,770,064	22,031,856	22,204,287	22,204,287	22,385,617
6			0110002 Air-to-Ground Reaction Forces	42,641,275	42,641,275	43,441,304	45,309,357	45,309,357	45,308,255	45,774,791
7		1.1 Air Force Total		62,796,588	62,948,392	64,211,368	67,341,213	67,513,644	67,512,542	68,160,408
8		1.2 Land Forces	0120001 Land Reaction Forces	70,687,322	70,687,653	72,670,997	77,214,523	77,214,853	77,215,515	78,320,928
9		1.3 Naval Forces	0130001 Naval Reaction Forces	12,400,764	12,400,764	12,722,271	13,477,838	13,477,838	13,477,838	13,666,656
10	1 Rapid Reaction Forces Total			145,884,674	146,036,809	149,604,636	158,033,574	158,206,335	158,205,895	160,147,992
11	2 Border Defense Forces	2.1 Air Force	0210001 Air Defense Forces	53,362,557	53,817,969	54,273,384	55,881,282	56,398,575	56,398,575	56,398,575
12		2.2 Land Forces	0220001 Land Defense Forces	206,488,331	207,721,625	208,946,208	220,981,684	224,461,972	224,463,737	224,463,737
13		2.3 Naval Forces	0230001 Naval Defense Forces	12,511,014	12,511,014	12,832,521	13,588,088	13,588,088	13,588,088	13,776,906
14	2 Border Defense Forces Total			272,361,902	274,050,608	276,052,113	290,451,054	294,448,635	294,450,400	294,639,218

Figure 7-67. Pivot Table Format in Excel

If the second option (All Table Data) is chosen, the same data are exported, but are displayed in a slightly different format, as shown in Figure 7-68.

	A	B	C	D	E	F	G	H	I	J
1	Classification: None									
2										
3	Amount			Year						
4	Program Structure (1)	Program Structure (2)	Program Structure (3)	2007	2008	2009	2010	2011	2012	2013
5	1 Rapid Reaction Forces	1.1 Air Force	0110001 Air-to-Air Reaction Forces	20,155,313	20,307,117	20,770,064	22,031,856	22,204,287	22,204,287	22,385,617
6	1 Rapid Reaction Forces	1.1 Air Force	0110002 Air-to-Ground Reaction Forces	42,641,275	42,641,275	43,441,304	45,309,357	45,309,357	45,308,255	45,774,791
7	1 Rapid Reaction Forces	1.2 Land Forces	0120001 Land Reaction Forces	70,687,322	70,687,653	72,670,997	77,214,523	77,214,853	77,215,515	78,320,928
8	1 Rapid Reaction Forces	1.3 Naval Forces	0130001 Naval Reaction Forces	12,400,764	12,400,764	12,722,271	13,477,838	13,477,838	13,477,838	13,666,656
9	2 Border Defense Forces	2.1 Air Force	0210001 Air Defense Forces	53,362,557	53,817,969	54,273,384	55,881,282	56,398,575	56,398,575	56,398,575
10	2 Border Defense Forces	2.2 Land Forces	0220001 Land Defense Forces	206,488,331	207,721,625	208,946,208	220,981,684	224,461,972	224,463,737	224,463,737
11	2 Border Defense Forces	2.3 Naval Forces	0230001 Naval Defense Forces	12,511,014	12,511,014	12,832,521	13,588,088	13,588,088	13,588,088	13,776,906

Figure 7-68. All Table Data Format in Excel

The Pivot Table Format style is more suitable if you are preparing printed copies. The All Table Data style is better for preparing graphs.

Regardless of which style is chosen, the pivot table data exported to Excel has “merged” cells and when the merged cells are cleared, there are extra, unused columns in the spreadsheet. Here is one way to quickly remove the merged cells and extra columns:

13. When the exported spreadsheet opens, place the cursor in the box in the upper left corner of the worksheet, and right-click. (See the cell where the cross shows in Figure 7-69.)
14. Select **Format Cells** from the shortcut menu.

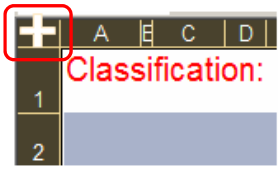


Figure 7-69. “Select All” Box

15. When the Format Cells window opens, select the Alignment tab and then click the Merge cells check box under "Text control" until it is cleared to "unmerge" all merged cells in the spreadsheet. Click **OK** to close the Format Cells window. (Steps 2 and 3 can be done in one click if the icon has been added to the Excel toolbar. **This only applies to Excel 2003 and earlier versions.**)
16. While all cells are still selected, double-click on any column divider to expand all columns to a default width (Figure 7-71).
17. Now you can see and easily delete each empty column (B, C, E, F, H, & J in Figure 7-72).

The spreadsheet is now in a condition where it is easier to use.

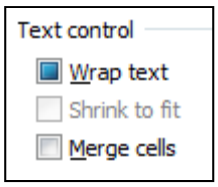


Figure 7-70. Text Control Options in Format Cells Window

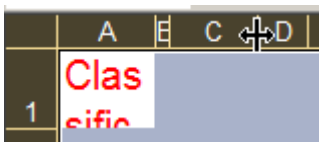


Figure 7-71. Column Divider in Excel Spreadsheet

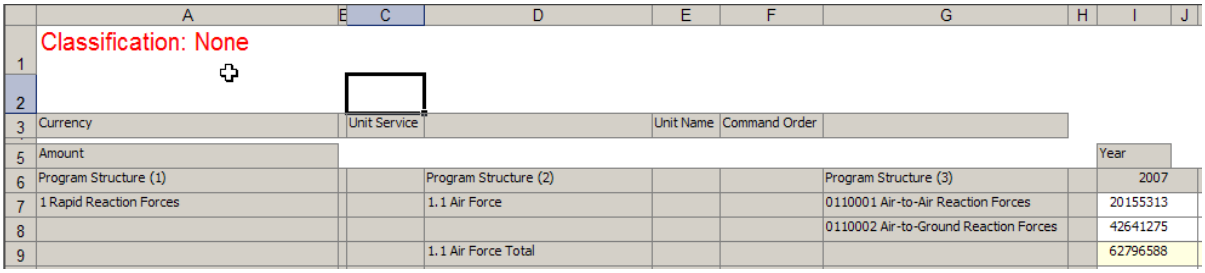


Figure 7-72. Empty Columns in "Unmerged" Spreadsheet

Sharing Reports

FOCIS reports are stored as part of the System database on each FOCIS installation. There are times when one user creates a report that would be useful to others. FOCIS provides users with an ability to export a report's design (Data and Layout) and an ability to import reports exported by another user.

Report format exports are done in either of two ways. You can right-click on the report you want to share and choose the **Export** option on the shortcut menu. You can also switch to the Utilities work area and use the **Data Functions/ Export/Reports** function shown in Figure 7-73.

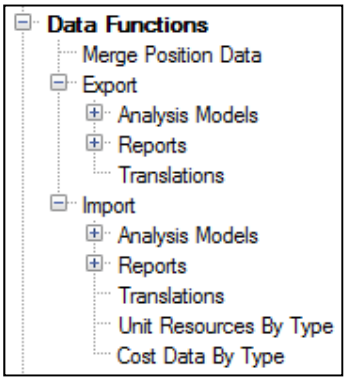


Figure 7-73. Utilities Work Area

Either of the above methods opens the window shown in Figure 7-74.

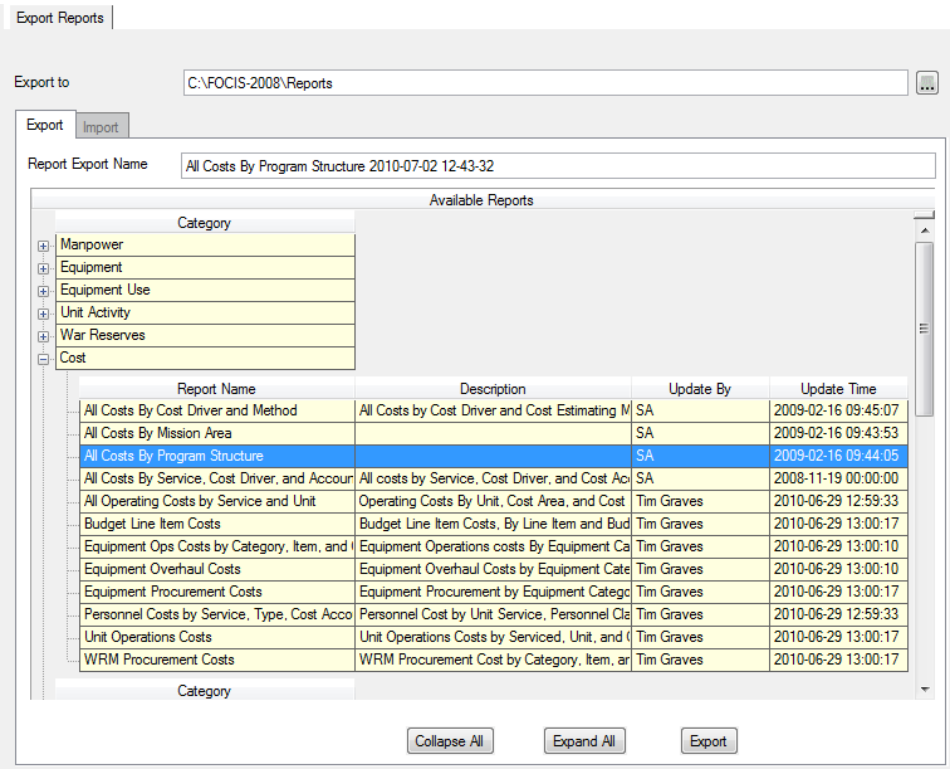


Figure 7-74. Export Reports Window

If the export is done from the Reports Work Area using the shortcut menu selection, by default, the report you had selected is initially automatically selected for export. This choice can be changed before actually performing the export. The window remains open so that you can export multiple reports in one session, but the exports are performed one report at a time.

The Report Export Name field defaults to the report name plus the date and time, but this can be edited. The default location for storing the zip file that contains the export is C:\FOCIS-2008\Reports, but this can be changed by clicking the icon.

When sharing an exported report, make sure to give the new user the zip file exactly as it was created. The zip file's hidden header contains information that identifies it as a FOCIS report and provides the information FOCIS needs to show users when they consider importing a report. Instructions for importing reports are provided in Chapter 8, Utilities.

Chapter 8.
FOCIS Utilities

FOCIS provides several general utilities that support its main functions. These utilities are consolidated in the Utilities Work Area. Some of these utilities are also available from other screens and FOCIS menu options.

FOCIS Utilities are provided under the following major functional areas[4]:

- **Position Information:** This function is used to revise a Position's name and description, "Lock" or "Unlock" a Position, or assign a password that limits access to only those users having the password. The Position Information function is also available by clicking **File > Position Information** on the Main Menu (when not in the **Position Information** area on the Utilities Work Area menu) or by clicking the or icon on the FOCIS toolbar.

- **Unit Resource Adjustments:** This area allows you to revise actual and/or authorized quantities of resources (e.g., Manpower or Equipment) for a user-selected range of years, Units, and resources based on a user-defined logic. These functions are also available by clicking **Tools > Resource Adjustments** on the Main Menu (when not in the **Unit Resource Adjustments** area on the Utilities Work Area menu), and as shortcut menu (right-click) commands on the specific resource's Adjustments window.

- **Cost Calculation:** This function allows you to calculate costs. This function is also available by clicking **Tools > Cost Calculation** on the Main Menu (when not in the **Cost Calculation** area on the Utilities Work Area menu).

- **Backup:** This function allows you to make a compressed copy of Position or System databases that can later be restored using the Restore utilities. Backup files can be used to share a Position with another FOCIS installation. This function is also available by clicking **File > Backup** on the Main Menu.

- **Restore:** This function allows you to convert a backed-up Position or System database to a fully usable database in FOCIS. This function is also available by clicking **File > Restore** on the Main Menu. Only users with System Administrator permission can restore a System database.

[4] FOCIS uses many terms that may not be familiar or may have a specific meaning to FOCIS. You can refer to the FOCIS Glossary (Appendix I) to read definitions of these terms as used in FOCIS.

- **Data Functions:** This set of utilities provides a variety of data-sharing functions. The **Merge Position Data** function is used to combine data from two Positions. **Export** and **Import** functions allow users to share FOCIS Analysis Models, Reports, and screen label Translations. Additional **Import** functions allow users to enter data into FOCIS from Excel spreadsheets for Unit resources and cost.

- **Administrator Tools:** This set of utilities is used to manage the use of FOCIS. The **User Information** function allows users with System Administrator permission to add and remove users and change passwords. Users without this permission can modify only their own password. The **System Settings** function gives users the ability to control how numbers and dates appear on FOCIS windows and contains an interface that allows FOCIS to be used on a network. The **Error Data** function captures error data that allows the FOCIS developers to troubleshoot and fix problems that are reported by FOCIS users.

- **Translations:** The **Dictionary** and **Terminology** functions allow users to modify the labels that appear on FOCIS windows. This function is also available using the icon on the FOCIS toolbar.

Using FOCIS Utilities

The Utilities Work Area can be opened by clicking **Work Areas > Utilities** on the FOCIS Main Menu or by using the Explorer Bar navigation controls at the bottom left of the FOCIS application, as shown in Figure 8-1.

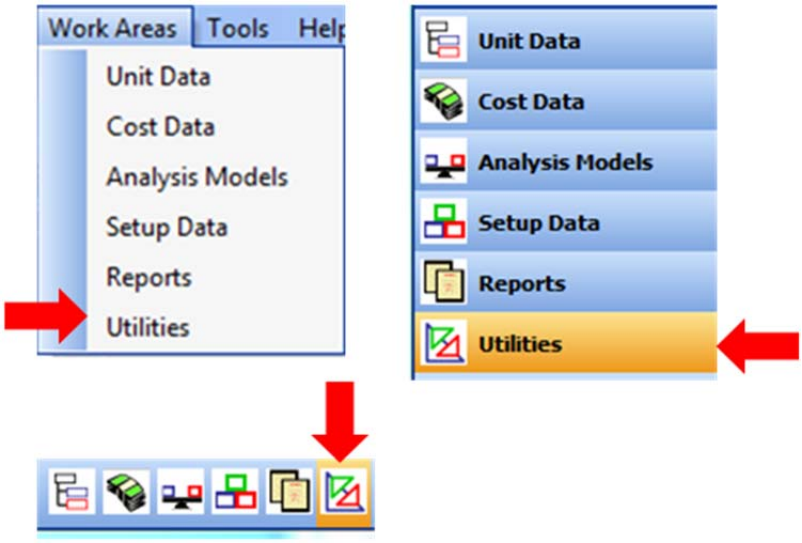


Figure 8-1. Selecting the Utilities Work Area

Once the Utilities Work Area is open, you choose a specific function from the menu in the left pane of the window (Figure 8-2).

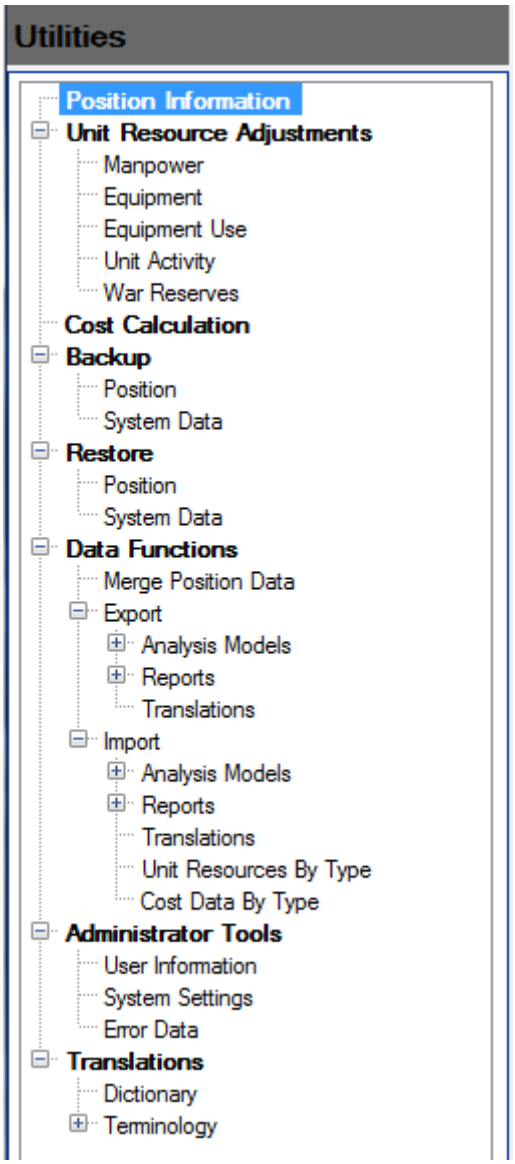


Figure 8-2. Utilities Menu

Notes:

- The **Restore > System Data** function only appears for users with System Administrator permission.
- The **Import > Unit Resources By Type** function only appears for users with Force Data or System Administrator permission.
- The **Import > Cost Data By Type** function only appears for users with Cost Data or System Administrator permission.

Position Information

The **Position Information** window provides the ability to name, describe, and control access to the Open Position database. The **Position Information** function is available from the Utilities Work Area menu, the Main Menu (by clicking **File > Position Information**), or by clicking the or icon on the FOCIS toolbar.

The **Position Information** window provides the ability to:

- Revise the Position name.
- Enter and edit a description of the purpose or characteristics of the data.

- “Lock” or “Unlock” the Position to control whether data in a Position can be revised. (Only available to users with System Administrator permission.)
- Add, revise, or remove a password to control user access to the Position data.

Position Name

The name of a FOCIS Position can be revised at any time by opening the **Position Information** window, clicking in the Name field (Figure 8-3), and typing a new name.

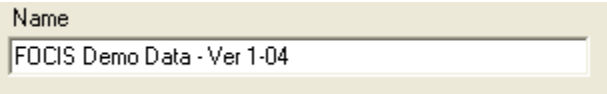


Figure 8-3. Name Field

Any name can be used as long as it does not exactly match another Position name that is currently available. After you enter the revised name, click the **OK** button.

Several special keyboard characters cannot be used as part of the name. If any of the following are used in a Position name, they are removed from the name when it is saved:

- Single (‘) or double (“) quotation marks
- Asterisk (*)
- Forward slash (/) and backslash (\)
- Colon (:) or semicolon (;)
- Comma (,) or period (.)
- Greater than (>) or less than (<) symbols
- Question mark (?)

Position Description

FOCIS allows you to record and revise a description of the Open Position. This capability can be used to save information that will help identify the purpose and content of the Position for future reference. Approximately 150 characters of the start of the description are included in Backup files comment information and are displayed when choosing a Position to restore.

Position Descriptions can be revised at any time by opening the **Position Information** window and clicking in the Description field (Figure 8-4). Any keyboard character can be used in the description.

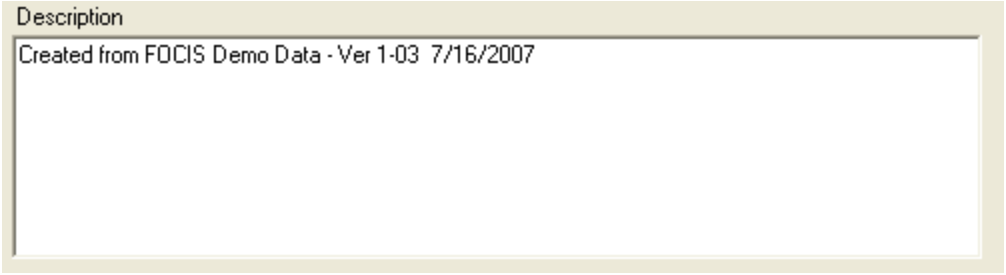


Figure 8-4. Position Description Field

After you enter the revised description, click the **Save** button.

Locking and Unlocking Positions

FOCIS is often used to prepare force and financial databases that document a proposed or approved defense program plan. The process of preparing a defense program typically includes several iterations as alternatives are considered, revised, and finally approved. Sometimes a Position reaches a point where a user wants to preserve it for future reference, knowing that no further changes were made to the data. In FOCIS, users with System Administrator permission can set a database parameter that prevents any user from modifying the data. This is called "locking" a database.

When a Position is locked, you can still use the full functionality of the Reports and Analysis Models tools. You can view and export all data in a locked Position. If you want to make further changes to a locked Position without losing the current data values, you can use the **Save As** function to create a separate Position with a new name and then work with that new Position to make any desired changes. (When **Save As** is used to copy a locked Position, the newly created Position is unlocked.) Locked Positions can be deleted, so it is a good idea to make a backup of each Position you want to preserve for future use.

Any user with System Administrator permission can "unlock" a Position. If you have System Administrator permission, the window appears as shown in Figure 8-5. Otherwise, the **Unlocked** and **Locked** options are not available.

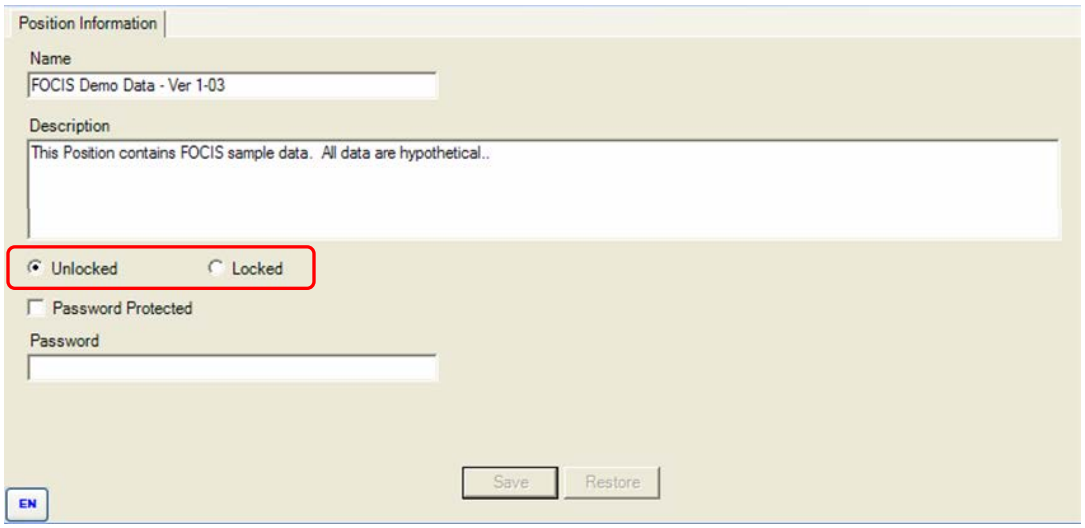


Figure 8-5. Unlocked and Locked Options

Table 8-1 describes the access differences between locked and unlocked Positions.

Table 8-1. Unlocked vs. Locked Positions

FOCIS Capability	Unlocked	Locked
Setup Data	Users with System Administration, Force Data, or Cost Setup Data permission can modify. Other users can view the data.	View only
Unit Organization Data	Users with System Administration or Force Data permission can modify. Other users can view the data.	View only
Unit Resource Data (including Unit Resource Adjustment windows)	Users with System Administration or Force Data permission can modify. Other users can view the data.	View only
Cost Data (including Inflation)	Users with System Administration or Cost Data permission can modify. Other users can view the data.	View only
Position Name and Description	All users can change the Name or Description at any time.	
Cost Calculation	All users can run the cost calculation at any time.	
Analysis Models	Users with System Administration or Analysis Model permissions can modify Models. Other users can view the data.	
Back up and Restore the Position	All users can back up or restore a Position at any time.	

Functions not listed above are not affected by a Position's Locked/Unlocked status. Reports can be modified, created, and run; label translations can be modified; or new users can be added when the Position is locked. The sole purpose of locking a Position is to prevent a user from changing data.

Password Protecting a Position

There are times when access to a Position needs to be limited to specific users. If there are many FOCIS users on one computer or if FOCIS is being used on a network, some users may want to work on and use a Position without others being able to see the work. FOCIS provides a way to limit access to a Position by allowing any user to add a password to a Position.

No user (even the creator of the password) can open a password-protected Position unless they have the password. If a backup is made of a password-protected Position, it cannot be restored without the password.

The password can be assigned on the Position Information window. It can also be changed by opening the Position Information window for an already password-protected Position, as shown in Figure 8-6.

Figure 8-6. Password Protection Fields

The password protection can be removed after successfully opening a password-protected Position by opening the Position Information window and clearing the **Password Protected** check box.

Unit Resource Adjustments

The various windows in the Unit Resource Adjustments area allow you to adjust the Manpower, Equipment, Equipment Use, Unit Activity, and War Reserves Resources for a subset of Units. These functions are accessible from the Utilities Work Area menu (Figure 8-7) or the Main Menu (by clicking **Tools > Unit Resource Adjustments**). Instructions for using them are provided in Chapter 4.

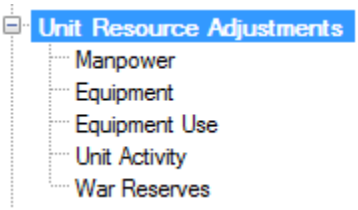


Figure 8-7. Unit Resource Adjustments Menu

Cost Calculation

FOCIS uses Unit Organization and Unit Resource data with cost data to produce an estimate of year-by-year budget requirements. The cost calculations are produced only when you initiate a cost calculation using either the Utilities Work Area menu (by clicking **Cost Calculation)** or the Main Menu (by clicking **Tools > Cost Calculation**).

The cost calculation is controlled by the choices you make using the Cost Calculation window. You choose what types of costs (Cost Area) will be calculated and the Base Year

that will be used in making the calculation. The calculation process occurs as shown in Figure 8-8.

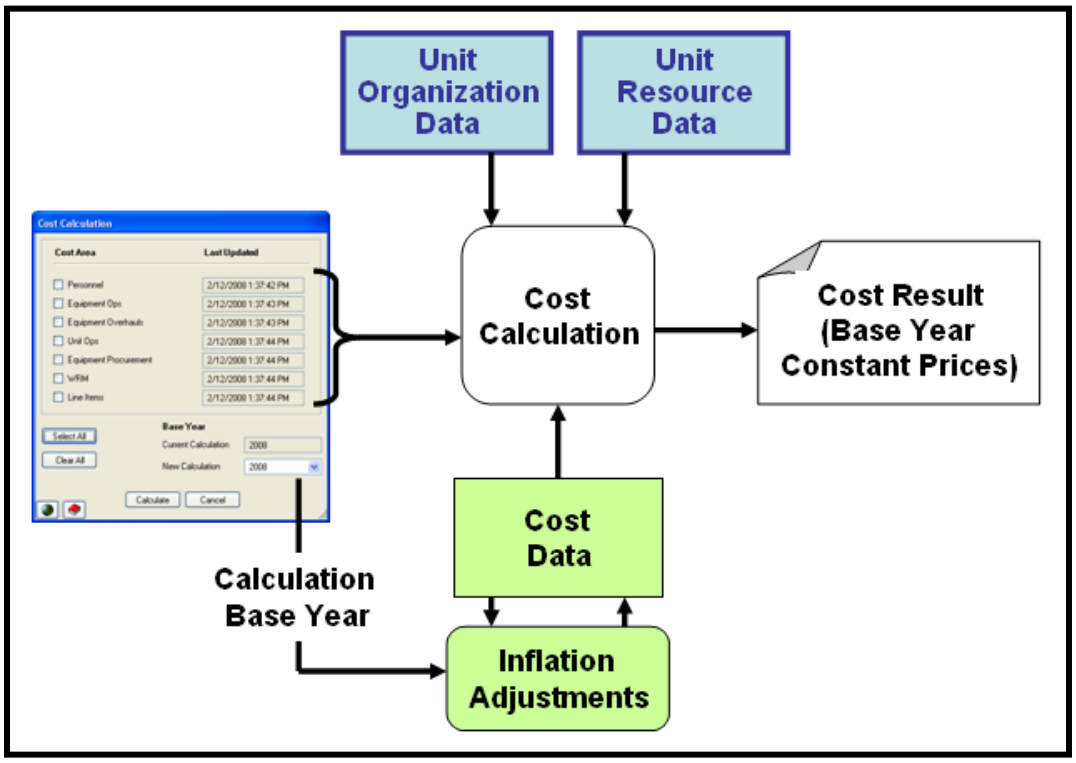


Figure 8-8. Cost Calculation Process

When the cost calculation begins, FOCIS identifies the types of calculations that need to be made from the selected Cost Area check boxes on the Cost Calculation window (Figure 8-9). FOCIS adjusts the cost data for the selected Cost Areas so that all cost data are converted to the selected calculation Base Year. These adjusted cost data are used with the appropriate cost drivers from the Unit Organization and Unit Resource data to produce a table with the cost results in the selected calculation Base Year. FOCIS remembers the calculation Base Year last used to calculate costs, and the Cost Calculation window will not allow you to produce cost results for one Cost Area that are for a different Base Year than the cost data already stored. If the Base Year is set to a year that is not the Base Year of the current cost result data, FOCIS requires calculations for all Cost Areas to be made.

The Cost Calculation window is shown in Figure 8-9, followed by instructions for using it.

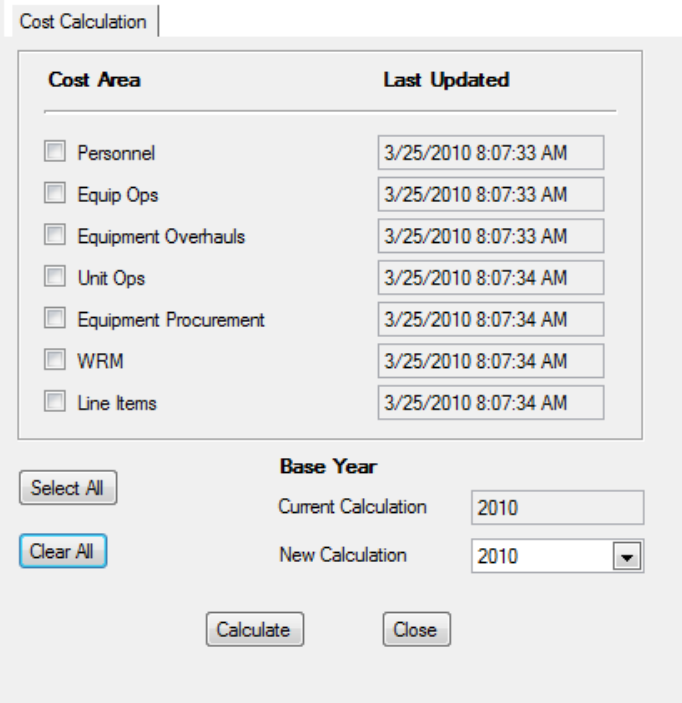


Figure 8-9. Cost Calculation Window

When the window opens, the check boxes for all Cost Areas are cleared and the date and time when the calculation for each Cost Area was last performed appears to the right. You can use the **Select All** button to select all check boxes or the **Clear All** button to clear all check boxes. The window also shows the Base Year of the current cost calculation (the Current Calculation field) and provides a place to select a different Base Year (the New Calculation field). The range of Base Years is the range of years in the Inflation data. If you want to make the calculation for a year that is not shown in the drop-down list of Base Years, use the **Add Years** function of the Inflation Rates window in the Cost Data Work Area and make sure to update the Inflation data for any new years that you add. (Instructions for using the Cost Data Work Area can be found in Chapter 5.)

When your selections have been made, click the **Calculate** button to start the calculation. You can exit the window at any time using the **Cancel**/**Close** button.

Backup Functions

There are two reasons for backing up the FOCIS databases. The first is to create a copy of the known condition of a database so you can return to (or restore) that version of the data at a later time. This can be useful in case of a computer malfunction or unintended changes in the data. The second reason is to share a database with another user.

FOCIS allows you to create backups of two types of data:

- Position Data – The Unit Organization, Unit Resources, Cost, and Setup data as well as all Analysis Models in a Position.

- System Data – The general information that applies to all Positions used within a single FOCIS installation. These data include reports, user information (user names, passwords, permissions, and preferences), label translations, and user-modified terminology.

FOCIS provides access to these functions through the menu items shown in Figure 8-10.

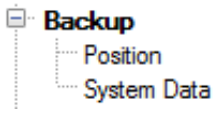


Figure 8-10. Backup Menu

Position and System Data backups are created as ".zip" files. The ZIP files, **exactly as they are created**, are used by FOCIS as the sources for restoring Position or System databases.

CAUTION: Do not UNZIP a FOCIS backup. If you unzip a FOCIS backup, FOCIS cannot restore the unzipped form of the data even if you re-create a new ZIP file from the uncompressed data using a compression application. The reason for this is that FOCIS places information in the comment portion of the ZIP file that is needed in order to recognize the type of data in the ZIP file as well as other information, such as the name of the database.

Backing Up Position Data

It is a good idea to back up a Position database frequently during periods when it is being modified. It is especially important to back up a Position before doing a Data Merge (see the "Merge Position Data" section on page 8-18) or before importing Unit or Cost data. If any unexpected results occur when merging or importing data, you will not have any access to your original data unless you have made a backup first. When you have any concern about the effect of an action, it is **always** good practice to make a backup first. The Position Backup window is shown in Figure 8-11.

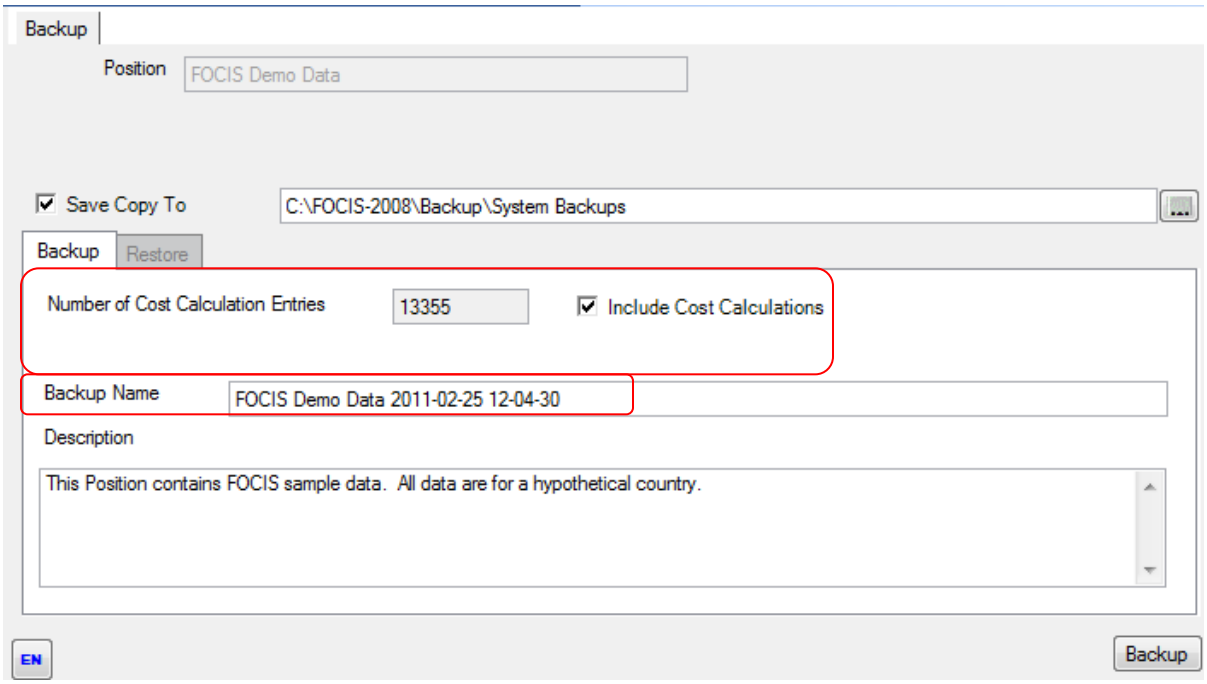


Figure 8-11. Position Backup Window

The Position field displays the name of the Open Position. The Save Copy To text field shows where the backup will be saved. You can change the location where the backup file is saved by clicking the ... button.

In many databases, the cost calculation results data are half of the total data size. If you want to minimize the size of the backup ZIP file, you can choose to create the backup without the cost calculation data, since it is always possible to run the cost calculation (see Chapter 5, Cost Data) with the other information in the backup.

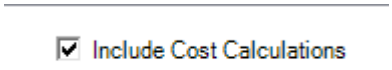


Figure 8-12. Include Cost Calculations Check Box

In the Position Backup window the number of Cost Calculation entries in the cost result table is displayed. This will provide a guide to the data size. The Include Cost Calculations check box (Figure 8-12) controls whether or not you include cost calculation results data in the backup file. To include the cost results, select the Include Cost Calculations check box.

Each backup file has a default name that is a combination of the Open Position's name, the date (yyyy-mm-dd), and the time (hh-mm-ss) (Figure 8-13). You can change the file name to any name you wish to use. FOCIS can still recognize that the file is a Position backup from information FOCIS will place in the Comment portion of the backup ZIP file.

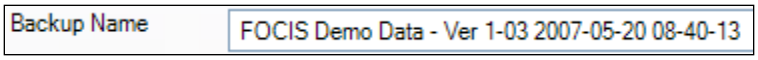


Figure 8-13. Backup Name Field

The Description field contains the description you created using the Position Information window, discussed on page 8-4. You may edit this description for the purposes of recording what is saved with the backup file. The beginning portion of the description will be displayed in the Restore window to help choose the correct Position file to restore.

Backing Up System Data

The System database contains information that is not related to any single Position database. The System database tailors the FOCIS software on your computer based on your needs and preferences and holds information that can be used with any Position. The System database contains:

- Translations you have entered
- Users registered on your computer (user ids and passwords) along with their permissions
- User preferences such as screen location and pop-up locations
- Reports you have created and saved

It is a good idea to back up a System database from time to time. A backup of a System database that contains the translations, users, and reports you want in a new FOCIS installation can be restored on any other FOCIS computer, replacing the comparable existing information. You can also share reports and translations using the **Export** and **Import** functions described later in this chapter.

The System Backup window is shown in Figure 8-14.

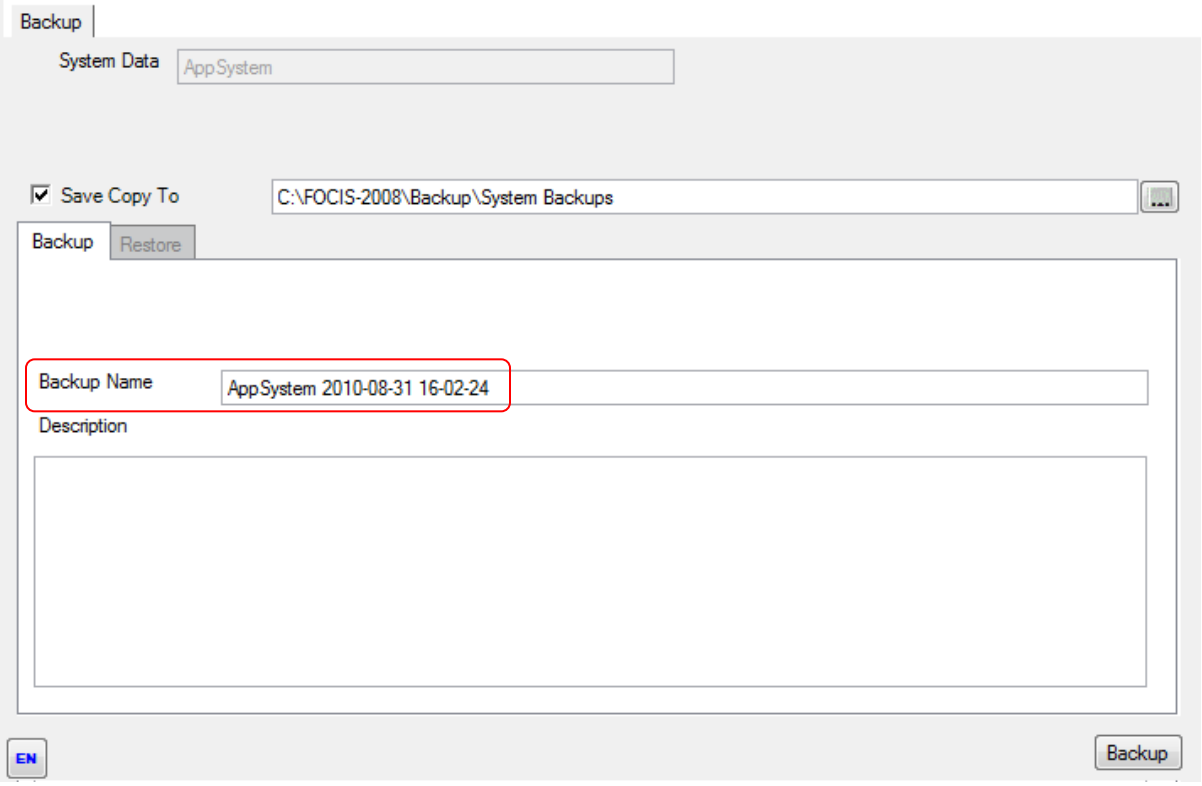


Figure 8-14. System Backup Window

The System Data field confirms that you are backing up the System database (i.e., AppSystem). The Save Copy To field shows where the backup will be saved. You can change the location where the backup file is saved by clicking the ... button.

Each backup file has a default name that is a combination of "AppSystem," the date (yyyy-mm-dd), and the time (hh-mm-ss) (Figure 8-15). You can change the file name to any name you wish to use. FOCIS can still recognize that the file is a System backup from information FOCIS will place in the Comment portion of the backup ZIP file.

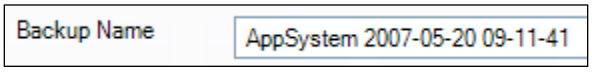


Figure 8-15. Backup Name Field

You can enter text in the Description field or leave it blank. The beginning portion of the description will be displayed in the Restore window to help choose the correct System file to restore.

When the location, the name, and the description are all set up as desired, click the **Backup** button. Status information will be shown throughout the backup process. When the backup process is complete, a message will be displayed (Figure 8-16). After you click the **OK** button, you can use other FOCIS functions.

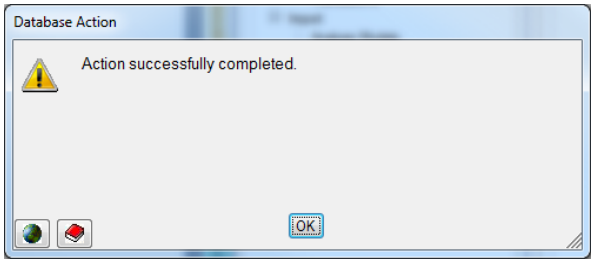


Figure 8-16. Backup Completed Confirmation

Restore Functions

There are two types of **Restore** functions that can be performed in FOCIS: **Position** and **System Data**. **Restore/Position** returns a previous Position's data to the Open Position. **Restore/System Data** returns the general characteristics of a FOCIS installation to those that existed at an earlier time. FOCIS provides access to these functions through the menu items shown in Figure 8-17.

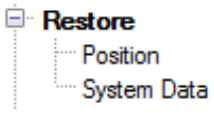


Figure 8-17. Restore Menu

Restoring Position Data

Position backup files contain all of the information in a Position but in a compressed format that cannot be used directly. The **Restore/Position** function converts the compressed backup files into a format that FOCIS can use. When the **Restore/Position** function is used, the data in the backup becomes the Open Position. The Restore Position window is shown in Figure 8-18.

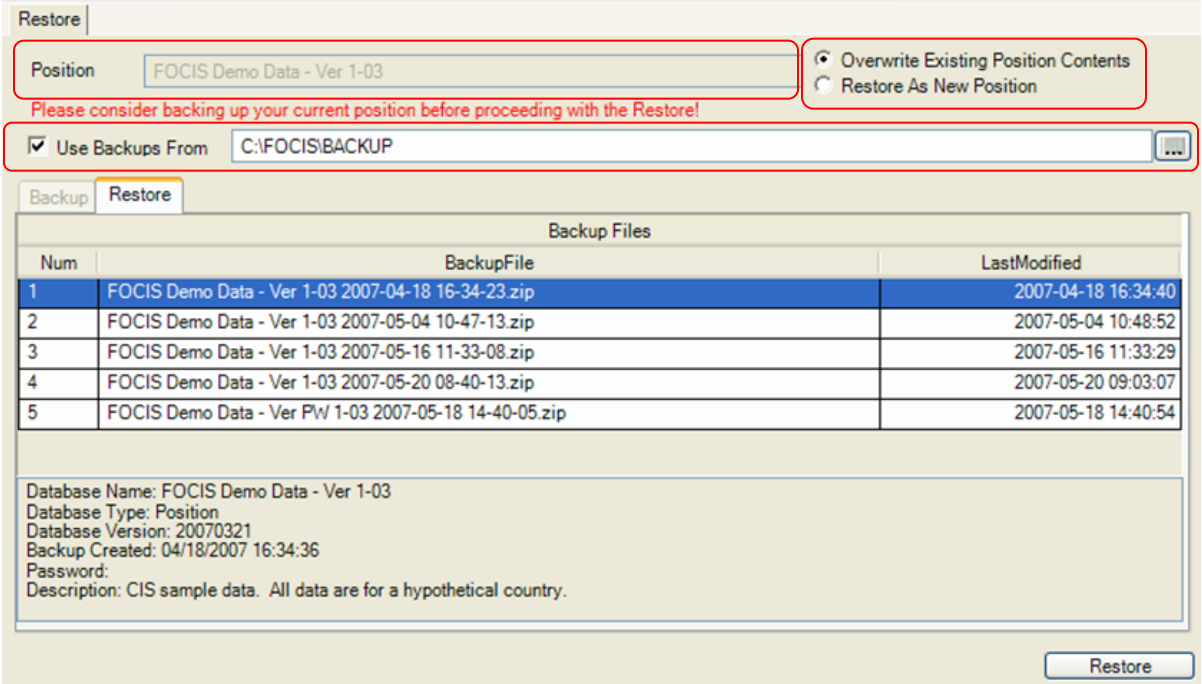


Figure 8-18. Restore Position Window

In this example, the Open Position is **FOCIS Demo Data – Ver 1-03**, as displayed in the Position field.

When the Restore Position window opens, FOCIS first looks for backup files that were created from the Open Position in the folder shown in the Use Backups From text field (Figure 8-19).

Figure 8-19. Use Backups From Field

To look in other folders, click the ... button and select the desired folder. This location will then become the default for restoring backups for the current user.

If FOCIS finds any backups that were created from the Open Position, it displays a list of these Position backups, sets the Restore mode to "**Overwrite Existing Position Contents**" (Figure 8-20), and sets the name of the Position to the name stored with the selected backup. This name is displayed at the top of the Restore Position window but is not editable.

Figure 8-20. Restore Mode Selection

You can also restore a Position backup that was created from the Open Position without deleting the Position it was created from (the Open Position) by changing the Restore mode

to "**Restore As New Position**." If this is done, you will need to give the newly restored Position a new name or change the name of the other matching Open Position. FOCIS cannot have two Positions in the same database catalog with the exact same name.

Network Users:

Note: If you have logged on to FOCIS selecting another network computer as the Server (logon screen choice), FOCIS is comparing Position names to the other Positions that are available on the selected server database and not those on your local computer.

If FOCIS cannot find any backups previously created from the Open Position in the selected folder, it displays a list of all Position backups in the selected folder and sets the Restore mode to "**Restore As New Position.**" As you select from the list of displayed Position backups, FOCIS places the name of the Position stored in the selected backup into the Position field at the top of the window, as shown in Figure 8-21. You can edit this name.

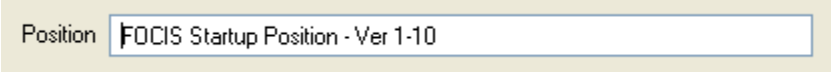


Figure 8-21. Sample Name in Position Field

If the name displayed matches the name of any Position that already exists in the FOCIS catalog of Positions on the database server in use, FOCIS will not complete the Restore when you click the **Restore** button because no two Positions can have the same exact name. The error message shown in Figure 8-22 will appear.

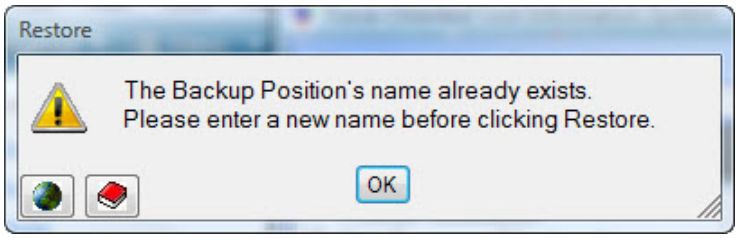


Figure 8-22. Position Already Exists Message

If this message appears, edit the displayed name to make it different from other Position names and then click the **Restore** button.

As you click on available backups in the Backup Files list, the stored Position name and the first portion of the Position Description are shown at the bottom of the window. When the desired backup is selected and the desired Position name is entered, click the **Restore** button to complete the action.

When the Restore action is complete, FOCIS will display the message shown in Figure 8-23.

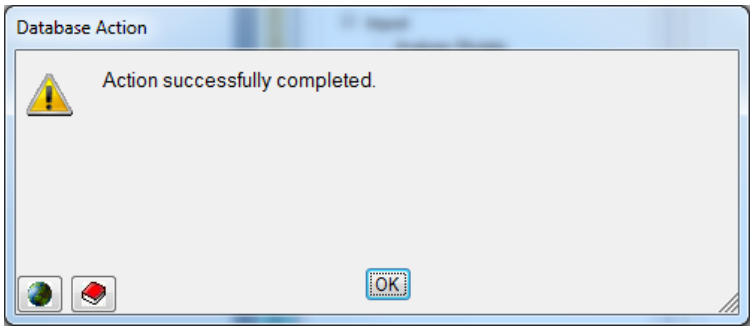


Figure 8-23. Restore Successfully Completed Message

Restoring System Data

If you want to return the general characteristics of a FOCIS installation (e.g., translations, reports, users and user preferences, and system settings) to those that existed at an earlier time, or if you want to use the System data (i.e., list of users, passwords, and permissions; reports, translations, and system settings) from another FOCIS installation, use the **Restore/System Data** function. Only users with System Administrator permission have access to this function. The Restore System window is shown in Figure 8-24.

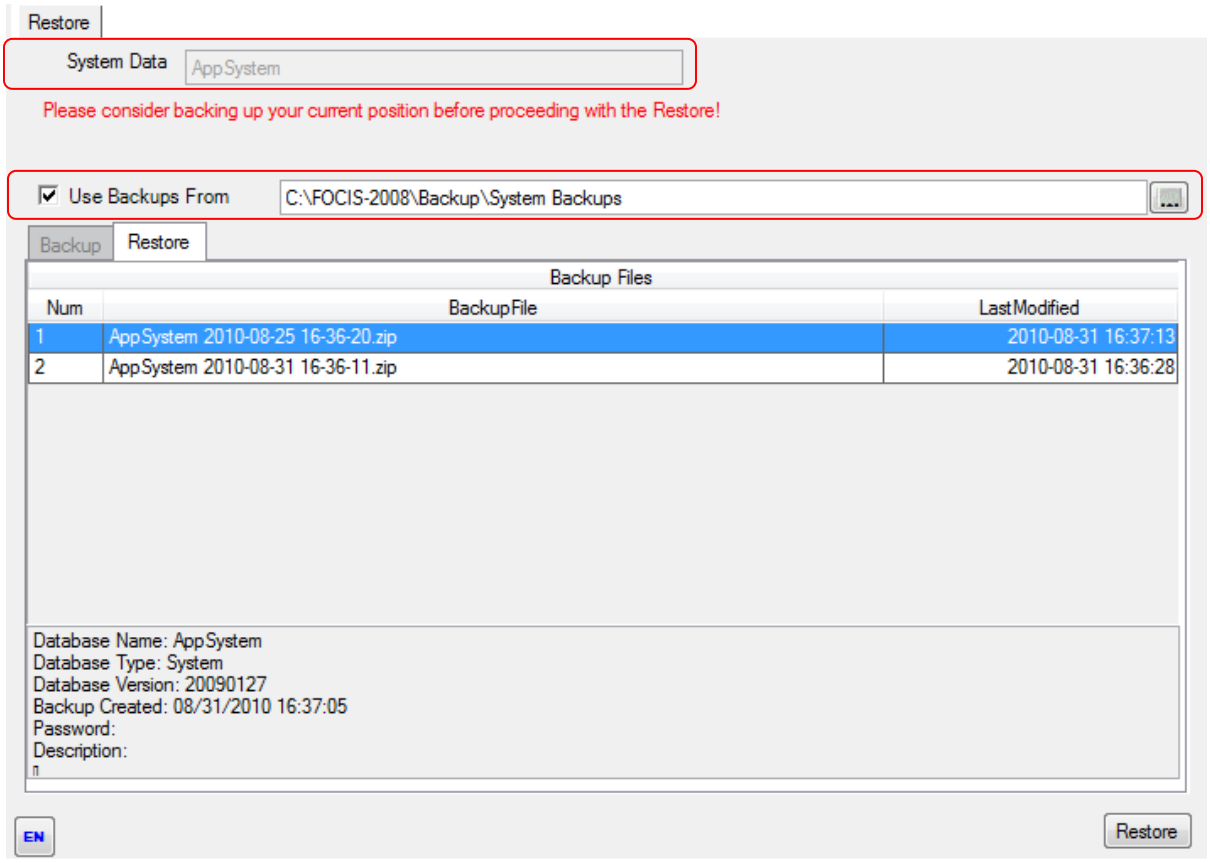


Figure 8-24. Restore System Window

In this example, the database being restored is a FOCIS System database (the database name is **AppSystem**, shown in the System Data field in Figure 8-24). Restoring a System database always overwrites the entire System database, since there can be only one System database. Select the version of the System database you want to restore and then click the **Restore** button. If the folder containing System backup files displayed in the Use Backups From field is not correct, click the button and select the desired folder.

Note: If you want to restore only translations or reports, you can do this using the **Export** and **Import** functions under the Data Functions utility (see the "Data Functions" section beginning on page 8-18).

Data Functions

FOCIS provides utilities that support moving data into FOCIS databases from other Positions or other FOCIS installations. You can merge selected portions of Setup, Organization Structure, Unit Resource, and Cost data from two Position databases. You can export and import Analysis Model structures and category content, report designs, and translations. You can also import Unit Resource data or Cost data from Excel spreadsheets. FOCIS provides access to these functions through the menu items shown in Figure 8-25.

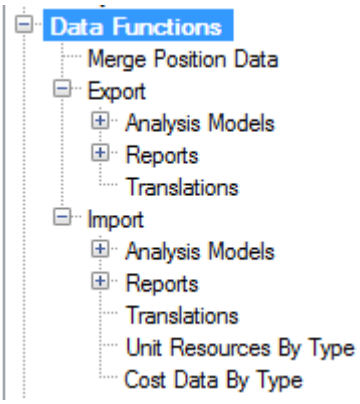


Figure 8-25. Data Functions Menu

Merge Position Data

Introduction and Overview

The **Merge Position Data** function (also referred to as **Data Merge** or simply **Merge**) is one of the most powerful tools in FOCIS and therefore one of the most complex functions to fully master. **Data Merge** can be successfully used in simple ways with only a little understanding of its potential, but to exploit its full potential, you need to spend time learning the capabilities and limitations of the **Merge Position Data** function.

Merge Position Data allows you to combine data from multiple Positions (one at a time) into a single Position with a great amount of control over the types of data taken from one Position to put into another. This function allows users who are connected to the master database via a network to work separately and later combine their work. However, successful merges require that the user community understand what **Data Merge** will and will not do. Using the **Merge Position Data** function successfully also requires that the user community follow some simple guidelines (see page 8-22).

Because **Data Merge** is more complex than other FOCIS functions and because improper use can change the database with no way to undo the changes unless a backup is made prior to the merge, only users with Administrator permission can perform a Data Merge.

FOCIS Position databases are often created or modified by a team of analysts supplying information in their own area of expertise. If FOCIS is configured to operate on a network, FOCIS users with access to that network can directly update a FOCIS database. If there are any contributors who do not have access to the network, it is still possible for them to participate in the preparation or update of a database if they follow the guidelines described on page 8-22 and then use the **Merge Position Data** function.

The **Merge Position Data** function allows users to do the following:

- Combine selected Setup data created in separate FOCIS Position databases
    - Add new Setup items from another Position database
    - Revise Setup item characteristics (e.g., item names or abbreviations) in one Position by merging data from another Position
- Revise a portion of the Unit Organization structure in one Position using Unit Organization data in another Position
    - Add a new Unit and its subordinates to an existing organization structure
    - Replace the organization structure for an existing Unit and its subordinates with revised organization data
    - Update organization information (e.g., Unit names, services, command levels, unit identification numbers)
- Add to or revise selected Unit Resource data in one Position using Unit Resource data from another Position
    - Revise existing or add new manpower, equipment, equipment use, Unit activity, or war reserve data using data from another Position database
- Replace selected cost data in one Position with cost data from another Position

Examples of Merge Position Data Function Uses

The **Merge Position Data** function allows you to merge data in many different ways. Some examples of how **Merge Position Data** can be used are described below.

Setup data (e.g., Services, Metrics, Personnel Types, Equipment List) can be created or modified in one staff office and then combined with other information in an Open Position database.

A special work group could add new Equipment and Equipment Setup data to the Equipment Setup data and then provide it to a FOCIS management office to be integrated with other Position Setup data.

Major organizations (e.g., military services and major civilian defense agencies) can independently develop their own multi-year program plans and, when completed, combine them into one, integrated FOCIS Position database.

The Army could develop its portion of a defense program plan and then provide it to the General Staff to integrate with other Service programs into a consolidated defense program plan.

A major subordinate organization can update information on its Units and then provide it to its Headquarters to be integrated into the Open Position database.

Each Air Force wing could update the information for Units within their organization and its subordinates and then provide it to the Air Force Headquarters to integrate with other Air Force programs into a consolidated Air Force program plan.

A staff organization responsible for Manpower, Equipment Inventories, or other Unit Resource data can update the data in their area of expertise and then an integrating FOCIS management office could merge only the revised data into an Open Position database.

The Navy Manpower staff could update the Manpower data in all Navy organizations and then provide it to the Naval Headquarters staff FOCIS management office to be integrated with other Navy program information to form a consolidated Navy program plan, as long as no changes in organization structure were made at the same time.

The Air Force logistics staff could update the War Reserves inventory data in all Air Force organizations and then provide it to the Air Force Headquarters staff FOCIS management office to be integrated with other Air Force program information to form a consolidated Air Force program plan.

Cost data (e.g., Personnel costs, Equipment operating costs, Unit operating costs, Inflation rates) for one or all Services can be created or modified in one staff office and then combined with other information into an Open Position database.

The section of the budget office that oversees Personnel costs could update all Personnel costs and then combine them with the other data in an Open Position database.

The Army budget office could update Army Unit Operating Costs and then combine them with other data in an Open Position database.

General Procedures for Merging Position Data

In most situations where the **Merge Position Data** function is used, there is an existing Open Position database that has some information already entered, and the work of completing or

updating that Position's data needs to be split among multiple supporting organizations so that work can advance in parallel.

Where this is the situation, the method for working with FOCIS Position data is as follows:

The FOCIS Coordinator:

- Prepares a Starting Position for contributors to use as a starting database
- Makes a backup of the Starting Position
- Transmits the backup ZIP file to the Contributors

Each Contributor:

- Restores the Starting Position backup to create their own Working Position (the Position name is often changed at this point to identify the Contributor's work)
- Changes the data
- Makes a backup of the revised Working Position
- Transmits the backup ZIP file to the FOCIS Coordinator

The FOCIS Coordinator:

- Restores the starting Working Position backup
- Selects the Starting Position as the Open Position – this Position may have changes that were made after the initial backup was made
- Makes a new backup at this time (optional but highly recommended)
- Uses **Merge Position Data** and selects the restored Working Position from a Contributor
- Completes the Merge

The work would flow as shown in Figure 8-26.

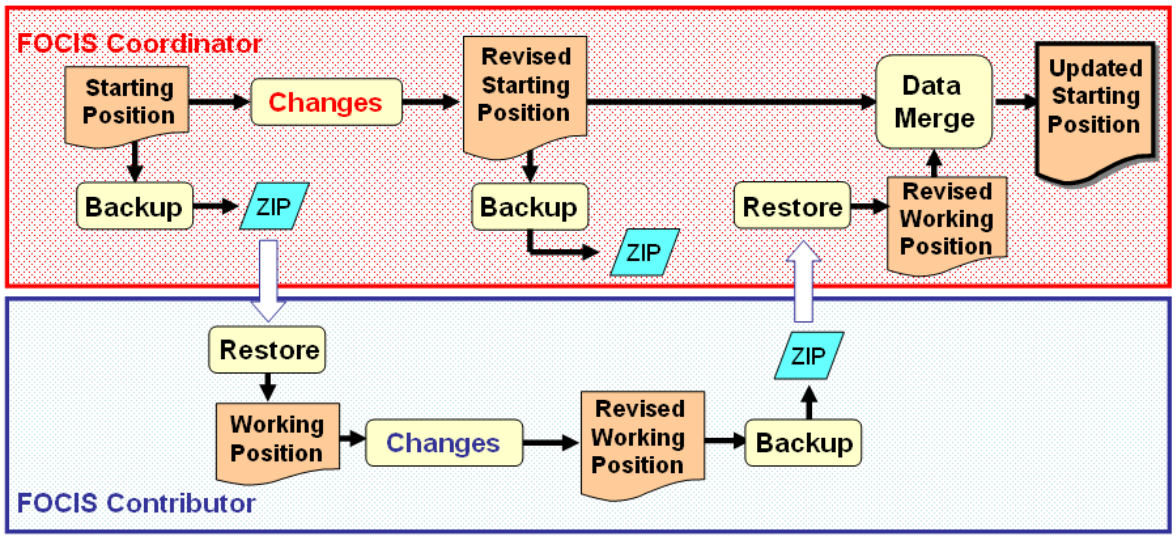


Figure 8-26. FOCIS Data Merge Workflow

Multiple Contributors can make changes in their own areas of expertise at the same time. If this occurs, the FOCIS Coordinator would merge each Contributor's changes as they are completed. It is worth mentioning one more time that it is good practice to make a backup of the Position that is going to be changed by the **Merge** function prior to performing the Merge. If this is done and, after doing the Merge, the FOCIS Coordinator finds that the desired Merge results were not achieved, it is easy to return to the pre-merged status of the data and make any required adjustments before attempting the Merge again.

NOTE: It is **not possible** to UNDO the changes made by a Merge. To ensure a Position's data can be returned to the starting condition, make a backup before doing the Merge.

Guidelines to Use When Working on Positions That Will Be Merged

FOCIS can accommodate many different situations while performing a Data Merge but there are limitations, and the best way to avoid problems that cannot be solved is to follow these guidelines. (Refer to Figure 8-26 for terminology.) If a restriction is not listed below, assume changes can be made without any special considerations.

Guidelines for Changing Setup Data

A new Setup data item that is going to be used by multiple Contributors must be entered in the Starting Position backup before other Contributors can use that Setup data item.

Example: All Services will be adding a new type of truck to their Equipment inventories. Before team members working on non-networked versions of the Position database can create Unit Resource entries, the FOCIS Coordinator must add the new truck and any metrics used with it to the Equipment Setup data and then create a backup. Any Contributor who wants to use this new truck with their data will restore the revised backup and Merge Equipment Setup data from the revised Position, making sure to accept the addition of the new truck to their Working Position.

NOTE: So that Setup item names can be freely revised at any time, FOCIS does not identify Setup items by their names. For this reason, if two users create a Setup item, even with the same name, and then try to merge data using that Setup item, the database that receives the merged data will treat these as two different Setup items. User-assigned names do not identify Setup items inside the FOCIS databases.

Guidelines for Making Organization Structure Changes

Contributors cannot add years to, or delete years from, the overall Position year span.

If a new portion of the Organization Structure is going to be added and later merged into the main Position database, make sure the parent Unit exists in the Starting Position before it is backed up to give to Contributing organizations.

Example: The current Position has no Units for the Army and a team member will be entering the Army force structure on another non-networked computer. If the Army Headquarters will report to the General Staff Headquarters, make sure that the General Staff Headquarters exists in the Starting Position before a backup is made to share with that team member.

Example: The current Position has no unit entries for the 12th Air Defense Wing and a team member will be entering wing organization data on another non-networked computer. If the 12th Air Defense Wing will report to the Air Force Headquarters, make sure that the Air Force Headquarters exists in the Starting Position before a backup is make to share with that team member.

Guidelines for Making Unit Resource Changes

Contributors cannot add years to, or delete years from, the overall Position year span.

The Contributor cannot modify the Unit Organization structure in any way for the range of Units that will have Unit Resource data merged.

Example: The N1 Personnel office needs to update the Unit Manpower data in a Position. After the N1 makes the changes for Navy Units, the new Manpower data will be merged and no other Unit Resource data are to be changed using the data from the N1. Make sure that the Unit Organization structure is complete and accurate before making a backup to give the N1 to use as its Working Position data. The N1 can make all changes needed in the Working Position, including changing any Manpower quantity in any year; adding new Personnel Types in one, several, or all Units; or removing all Manpower from selected Units in one or multiple years.

Guidelines for Making Cost Data Changes That Will Be Merged

If **all** of the data for any cost data category will be merged, any changes can be made by a Contributor and successfully merged into another Position.

Example: Experts in the Logistics Center plan to revise and add cost factors for Equipment Operations. They can make any changes needed to the Equipment Operations cost data and later merge ALL of that data into another Position, thereby replacing all Equipment Operations costs originally in that Position.

If **all** of the data for Personnel, Overhaul Quantities, Unit Operations, Budget Line Item costs, or Equipment Procurement Projects **in one Service** will be worked on by a contributing team member and later merged, any changes can be made by a Contributor and the cost data **for that Service** can be successfully merged into another Position.

Example: The Personnel cost experts in the Navy Finance Center plan to revise cost factors for Navy Personnel. They can make any changes needed to the Navy Personnel

cost data and later merge that data into another Position, thereby replacing all Navy Personnel costs originally in that Position.

If any data for Equipment Operations, Equipment Overhaul Costs, Equipment Procurement Factors, War Reserve Procurement, Proportional Costs, or Inflation Rates are to be changed, the changes must be made in a single Position. These changes can then be shared using Backup, Restore, and Data Merge, but all cost data of a single type will be replaced.

Example: The development of five-year program plans is done by having each Service develop its own plan and then integrating them into a single defense program database. Before distributing the Starting Position backup at the start of the process, the FOCIS Coordinator updated the Proportional Costs and Inflation data. When the FOCIS Coordinator received new Inflation data during the time that the Services were working on their program plans, the FOCIS Coordinator entered the new Inflation data, made a new backup, distributed it to the Services with instructions to merge the Inflation data from this backup into their Working Positions. After merging the Inflation data, all of the data in the Position was unchanged except for the new Inflation data.

Example: The development of five-year program plans is done by having each Service develop its own plan and then integrating them into a single defense program database. Before distributing the Starting Position backup at the start of the process, the FOCIS Coordinator updated some cost data based on the information then available. During the program plan development, two Services decided they needed to revise Equipment Operating Cost data for some of their Equipment Items. Representatives from the Services entered their changes in the Position maintained by the FOCIS Coordinator. The FOCIS Coordinator made a new backup, distributed it to the Services with instructions to merge the Equipment Operations Cost data from this backup into their Working Positions. After merging the Equipment Operations Cost data, all of the data in the Position was unchanged except for the new Equipment Operations Cost data.

Using the Merge Position User Window

The Merge Position Data window (Figure 8-27) has four areas with different functions. The top of the window provides a place to select the Source Position (Merge Data From field) from which data will be taken to modify the Open Position. This portion of the window also repeats the name of the current Open Position (Merging Data Into field) and reminds you that this is the Position database that will be changed by the Merge. FOCIS shows the year range of each selected Position.

The lower portion of the window provides opportunities to select the specific type of data to be merged. The left panel provides a place to select the types of Setup data to be merged. The

center panel provides the tools needed to control the merging of Organization Structure and Unit Resources. The right panel allows you to choose the type of Cost Data to merge.

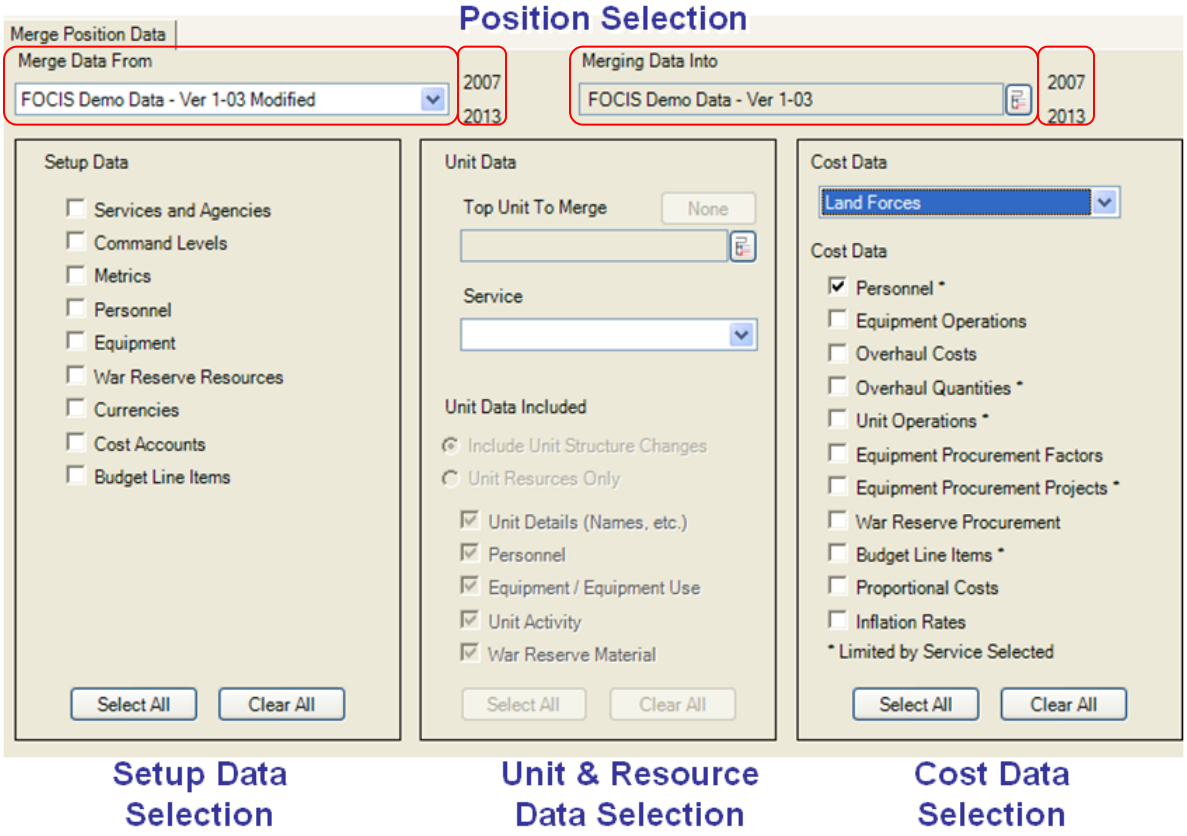


Figure 8-27. Merge Position Data Window

When the Positions are chosen and the specific data that are to be merged are selected, use the **Merge** button in the lower right corner to start the Merge process. This button is not active if the user does not have System Administrator privileges or if no data have been selected to merge.

Selecting Positions to Use In Data Merge

A Data Merge is performed using two Positions—one Position to be modified and one Position to provide the data that will modify the other. We refer to the Position database that will have the merged data as the Open Position and the Position database that selected data are being taken from as the Source Position You will select the Source Position database from a list of all Positions that currently exist on the FOCIS server being used (Figure 8-28).

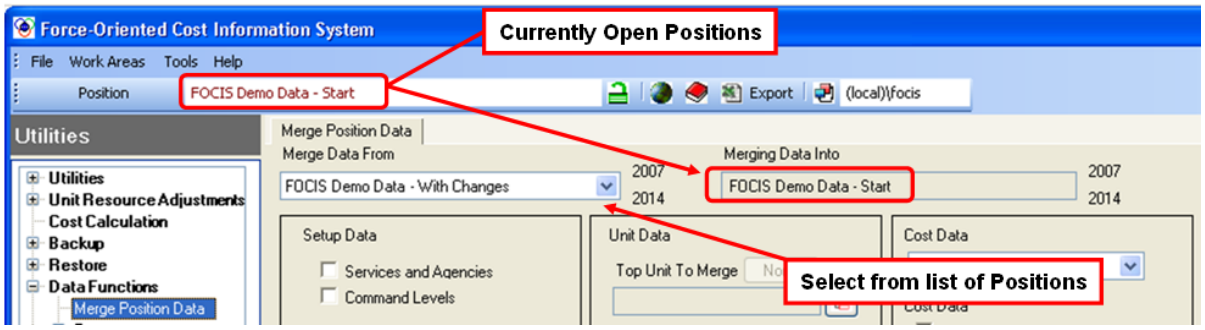


Figure 8-28. Positions Involved in the Merge

NOTE: FOCIS does not directly merge data from a Position backup (ZIP file). If the data that is to be used as part of the Merge is provided as a Position backup, you must first restore that Position to use it as part of the Data Merge (see "Restoring Position Data" on page 8-14 for instructions on restoring a Position).

If the year range of the two Positions is not identical, the Unit Organization and Resources portion is disabled. When this condition is detected, the message shown in Figure 8-29 replaces the fields that allow you to select a Unit or Service for the Merge.

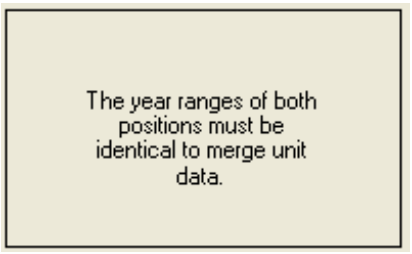


Figure 8-29. Year Range Warning

Merging Setup Data

Setup Data Merge Summary: Choose the types of Setup data to merge by selecting check boxes in the Setup Data panel. When a Setup Data type is checked, FOCIS compares the contents of the selected data types in the Source Position and Open Position and displays a Preview window that shows changes and additions in Setup data (i.e., data in the Source Position but not in the Open [or Master] Position). While the Preview window is displayed, choose the changes and additions you want merged with the Open Position. When the Merge is actually performed, new items are added, changes in item characteristics are made, but no Setup data items are removed from the Open Position. As shown in Figure 8-30, to merge data from the Source Position into the "FOCIS Demo Data" database, take the following steps:

6. Open the "FOCIS Demo Data" Position by clicking **Open** on the **File** menu and selecting "FOCIS Demo Data" on the Open Position window.
7. Click the drop-down arrow in the Merge Data From field (i.e., the Source Position) and select the "FOCIS Demo Data – With Changes" Position.

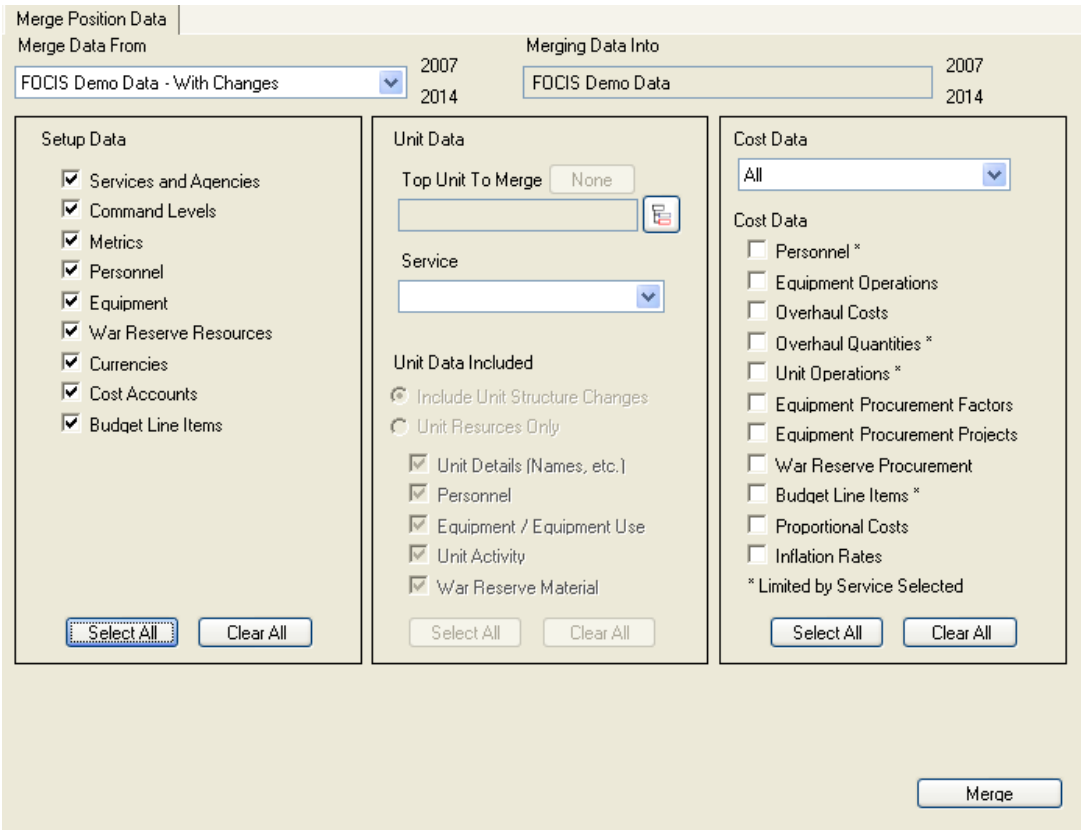


Figure 8-30. Merging Revised Position with FOCIS Demo Data

8. After selecting the types of Setup data to merge, click the **Merge** button to begin the Merge process.

Clicking the **Merge** button causes FOCIS to compare the details for all the selected Setup data types and then display the changes and additions in a Data Merge Preview window (Figure 8-31).

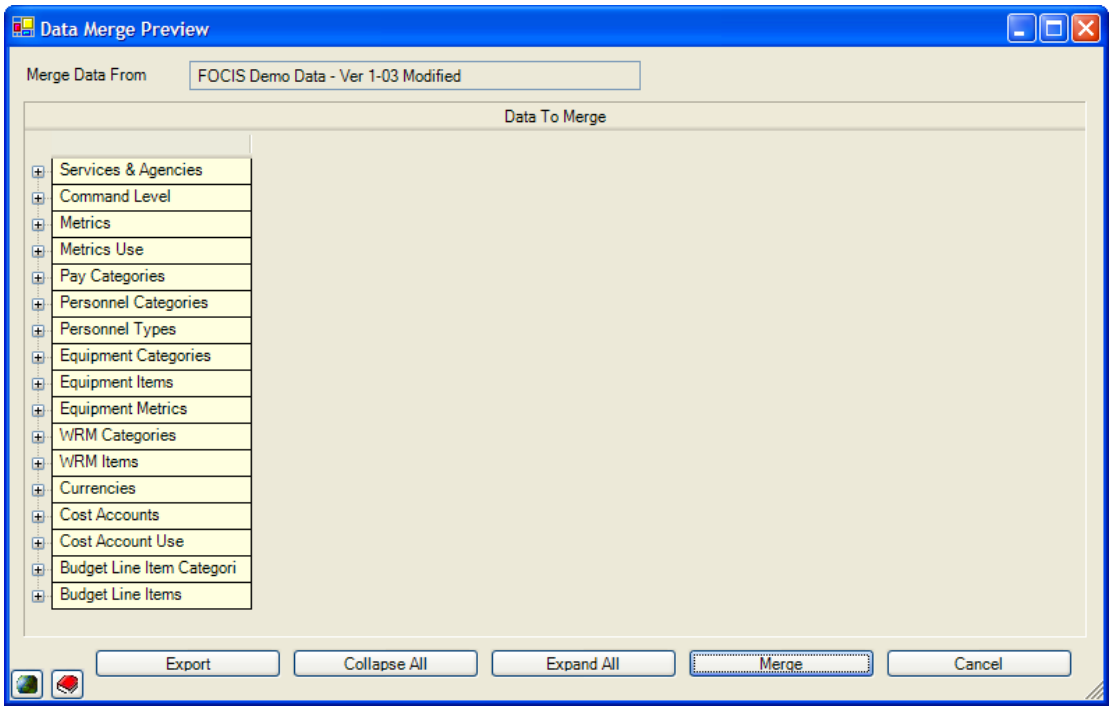


Figure 8-31. Data Merge Preview Window (collapsed)

The Data Merge Preview window will initially open with some or all Setup data categories collapsed (all details hidden). You can cause them to all be expanded by clicking the **Expand All** button at the bottom, or you can expand them individually by clicking the ⊞ icon next to any collapsed category heading. You can cause all categories to collapse by clicking the **Collapse All** button at the bottom, or you can collapse them individually by clicking the ⊟ icon next to the heading of an expanded category.

A complete record of all Setup data changes can be made by clicking the **Export** button. This will create an Excel file that can be shared or discussed with others.

When all categories are expanded, the window will be similar to the one shown in Figure 8-32.

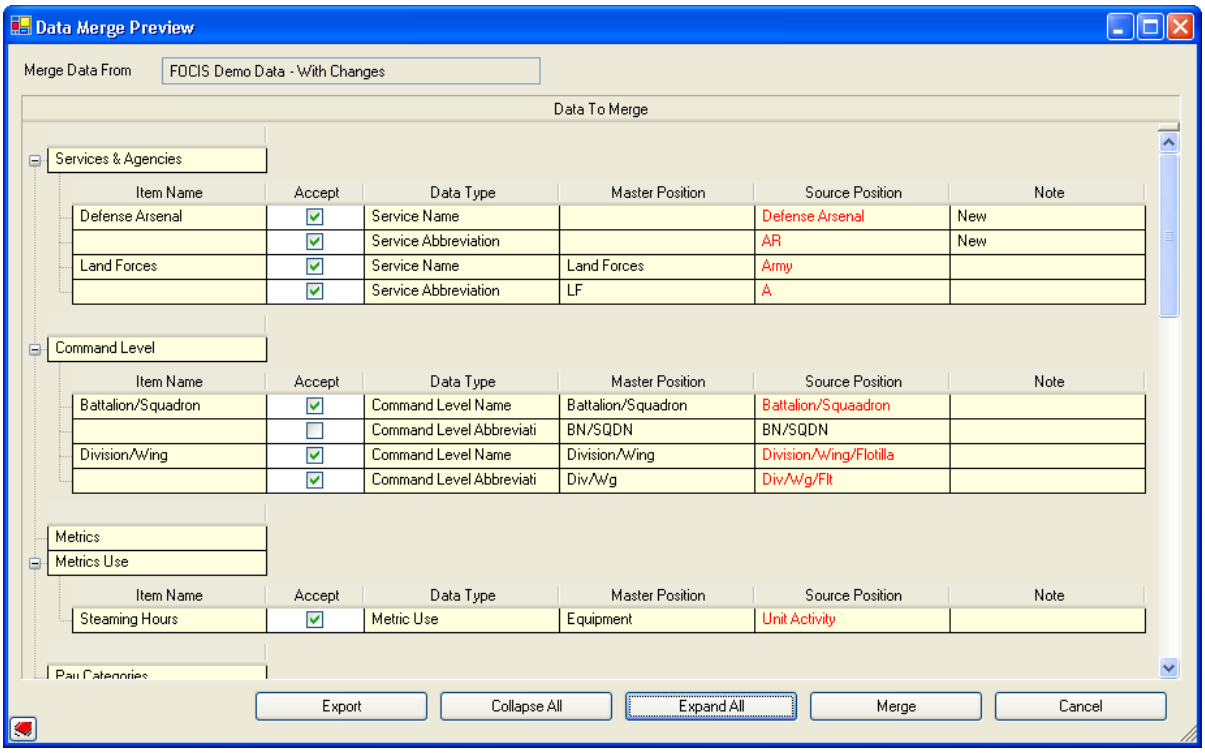


Figure 8-32. Data Merge Preview Window (expanded)

The column labeled **Item Name** shows the name of the Setup data item where a new or changed item was found. The check boxes in the **Accept** column are used to accept or reject a change. The **Data Type** column describes the data characteristic (e.g., Name, Abbreviation). Most "Items" will have multiple rows for each Item Name. For example, in Figure 8-32, in the Services & Agencies category, there are two rows, for two different Data Types: Service Name and Service Abbreviation. The **Master Position** column shows the value of the Data Type in the Open Position. Changed and new values are shown in **Red** in the Source Position column. When the Item is a new Setup item added to the Source Position, the Master Position column is empty and the **Note** column contains the word "New." This is a quick way to identify additions in the Source Position.

It is a good idea to look through the list of new and changed Setup items before completing a Merge. If an entry should not be added or modified in the Open Position, clear the corresponding check box to prevent it from being included. When all choices are made, click the **Merge** button. You can stop the Merge from making any changes in the Open Position at this point by clicking the **Cancel** button.

Merging Unit Structure and Unit Resource Data

Unit Data Merges begin by selecting a "Top Unit" in the Source Position database or by selecting a Service (Figure 8-33). If a Unit is selected, its Service is automatically displayed. (It is **not** a good idea to select as the Top Unit for the Merge a Unit whose Service association is not the same in all years. Units subordinate to the selected Top Unit can have different Services with no problems arising from Data Merge.)

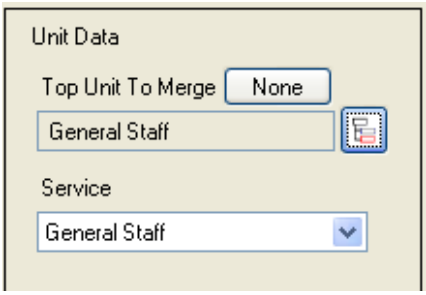


Figure 8-33. Source Position Top Unit Selection

If a Service is selected as the basis for the Unit Data Merge, FOCIS will find the Unit in that Service with the highest command level and show that Unit as the selected Top Unit. However, it is not necessary to choose the highest Unit in a Service as the Top Unit for the Unit Data Merge. This allows you to merge Unit data for lower level organizations without affecting other data in the same Service. For example, data on one Division could be worked on and later merged with the rest of the Army data. This technique can also be used to add entirely new Units as long as the parent of the new Unit exists in the Open Position.

When the Merge is finished, the only Unit data that will be affected by the Merge are the data for the selected Top Unit and its subordinate Units in the Service shown. This allows FOCIS to merge data for organizations like the General Staff that may have subordinates of other Services without also including subordinate Units that are not General Staff units.

When setting up the Unit Data Merge, you can also choose what type of data to merge (Figure 8-34). If you choose to include Unit Structure Changes, then all Unit resources are merged along with the structure. Alternatively, you can choose to leave the structure unchanged and merge specific types of Unit resources (e.g., Equipment/ Equipment Use, Unit Activity). When merging only Unit resources, FOCIS compares the organization structures in the Open and Source Position and only allows the Unit Resource Merge to continue if the structures are identical for the selected Top Unit and its subordinates in the Service of the selected Unit.

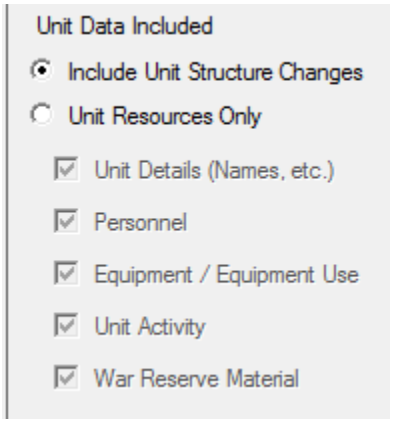


Figure 8-34. Unit Data Selections

When the Unit Data Merge is run, FOCIS verifies that the parent of the selected Top Unit exists in the Open Position and has a command level higher than the selected Top Unit. If this condition is met, FOCIS removes all organization and resource data for that Unit and its subordinates in the Open Position and replaces it with all organization and resource data for that Unit and its subordinates from the Source Position. The organization under this Top Unit

can change in any way and the Merge process will capture all changes in organization structure and resources.

FOCIS always verifies that the Setup data used in the Unit data selected in the Source Position exist in the Open Position Setup data before merging data. If all needed Setup data in the Source Position do not exist in the Open Position, *all new Setup entries are displayed* and should be reviewed prior to merging data.

The Data Merge Preview window that appears when FOCIS finds new Setup items is similar to the Setup Data Preview except that it does not list Setup items that exist in both Positions and does not provide an opportunity to accept or not accept individual items since all displayed Setup data are needed with the selected range of units to merge. In the example in Figure 8-35, you can see a new Metric, Metric Use, Pay Category, and Personnel Type.

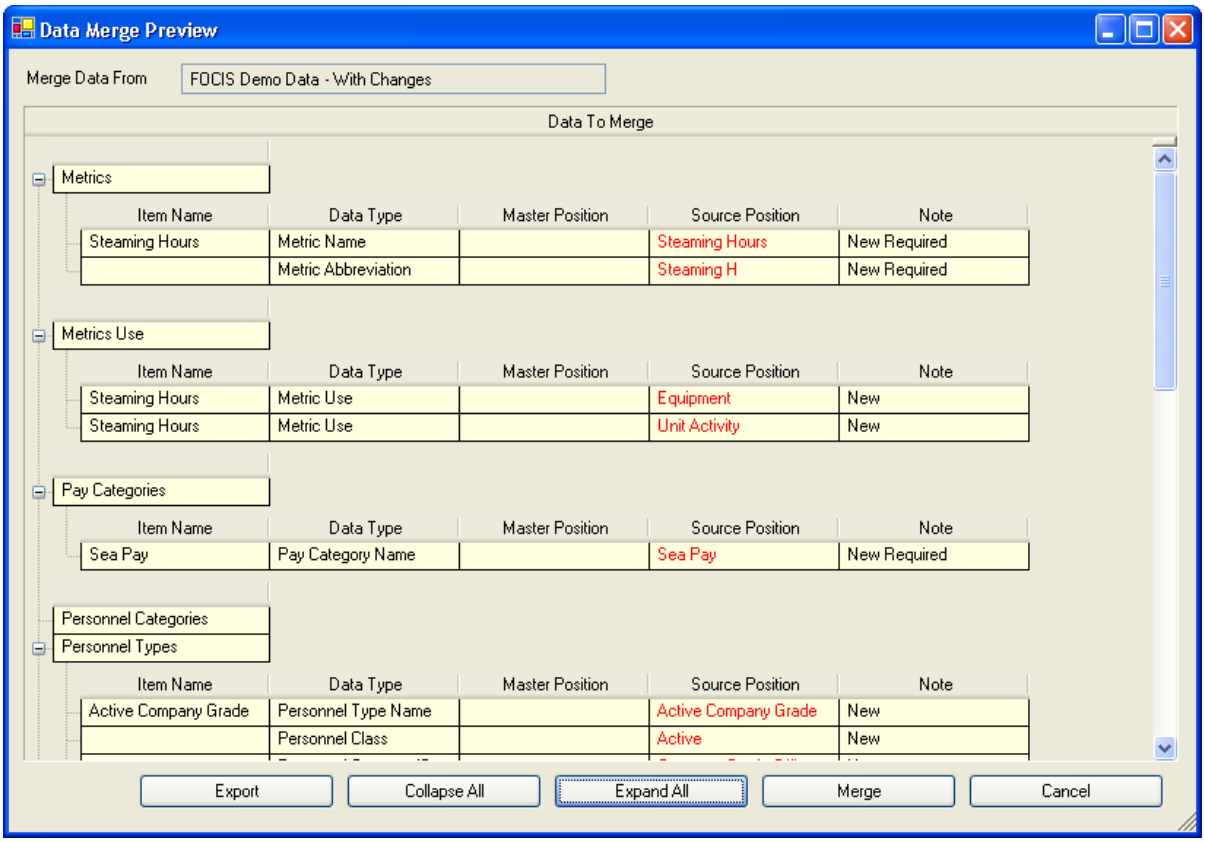


Figure 8-35. Data Merge Preview Window (new Setup items only)

If these additions to the Setup data are not acceptable, the Merge can be canceled. If they are acceptable, FOCIS will add the new Setup items to the Open Position when you click the **Merge** button. Note that this occurs even if no Setup data have been selected in the Setup Data portion of the Merge Position Data window. Also note that for this check, FOCIS only looks for new Setup items. Changes in Setup data characteristics are not examined or made as part of this process. (To make that happen, you must perform a Setup Data Merge. See “Merging Setup Data” on page 8-26.)

Merging Cost Data

Cost Data can be copied from the Source Position to the Open Position by selecting the check box(es) for one or more types of Cost Data. Some types of Cost Data can be identified with a Service. For these types of data, the Cost Data Merge can be set up to merge data that applies to only one Service by clicking the drop-down arrow in the Service field and selecting a Service. Alternatively, the Service field can be set to "All," as shown in Figure 8-36.

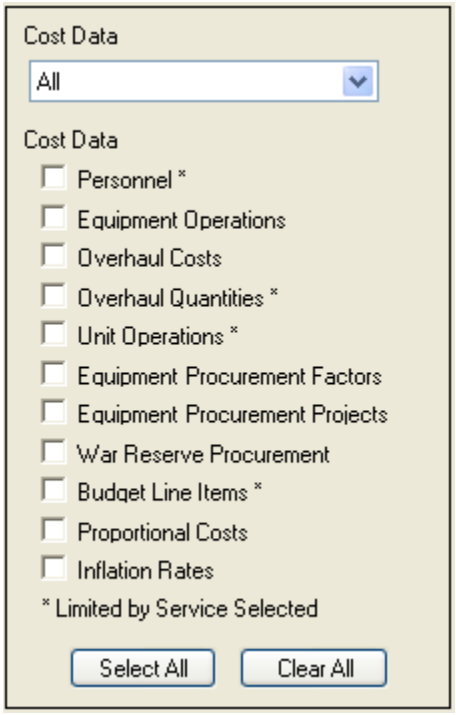


Figure 8-36. Cost Data Selections

When a Cost Data Merge is initiated and after all Setup data are verified to exist in the Open Position, all of the Cost Data in the Open Position that match the selected types are deleted from the Open Position. Then, data of the types selected are copied from the Source Position into the Open Position. This is an important point. Cost Data Merges do not combine Cost Data; they replace ALL of the Cost Data in the Open Position with the corresponding type of data from the Source Position.

FOCIS always verifies that the Setup data used in the selected types of Cost Data in the Source Position exist in the Open Position Setup data before merging data. If all needed Setup data in the Source Position do not exist in the Open Position, *all new Setup entries are displayed* and should be reviewed prior to merging data. If these additions to the Setup data are not acceptable, the Merge can be canceled. If they are acceptable, FOCIS will add the new Setup items to the Open Position when you click the **Merge** button. Note that this occurs even if no Setup data have been selected in the Setup Data portion of the Merge Position Data window. Also note that for this check, FOCIS only looks for new Setup items. Changes in Setup data characteristics are not examined or made as part of this process. (To make that happen, you must perform a Setup Data Merge. See "Merging Setup Data" on page 8-26.)

Export Data

The Position and System Data Backup and Restore functions allow users to share Positions and System data between FOCIS computers. However, there are times when only a portion of these data need to be taken from one Position or System and later imported into another. The Export Data functions in the Utilities Work Area allow you to export Analysis Models, Reports, and Translations.

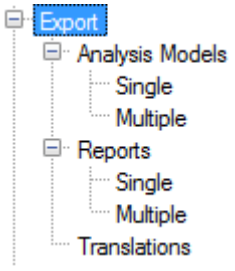


Figure 8-37. Export Data Menu

- **Analysis Models** are created within individual Position databases. There are many times when it is useful to share models among users or even copy one from one Position to another within the same FOCIS installation. Even if the same Analysis Model exists in two or more Position databases, the structure or assigned content changes from time to time and it is useful to be able to make those changes in one Position and then exactly duplicate them in the other Positions.

  Note: Analysis Model data can also be exported to Excel worksheets from the Analysis Model Work Area. These exports show the model structure and content but are not suitable for importing into another Position.

- **Reports** are created and saved within an individual FOCIS computer installation. There are times it is useful to copy a Report design from one FOCIS installation to another.

- **Translation** capability allows FOCIS to support displays in either its default language (English) or an alternate language. The list of text entries that make up the translation dictionary is long and it is useful to be able to move the translations from one FOCIS computer to another to avoid having to enter the translations multiple times.

Export Analysis Models

FOCIS provides the capability to export a single Analysis Model or multiple Analysis Models.

Export Single Analysis Model

Figure 8-38 shows the Export Single Analysis Model window.

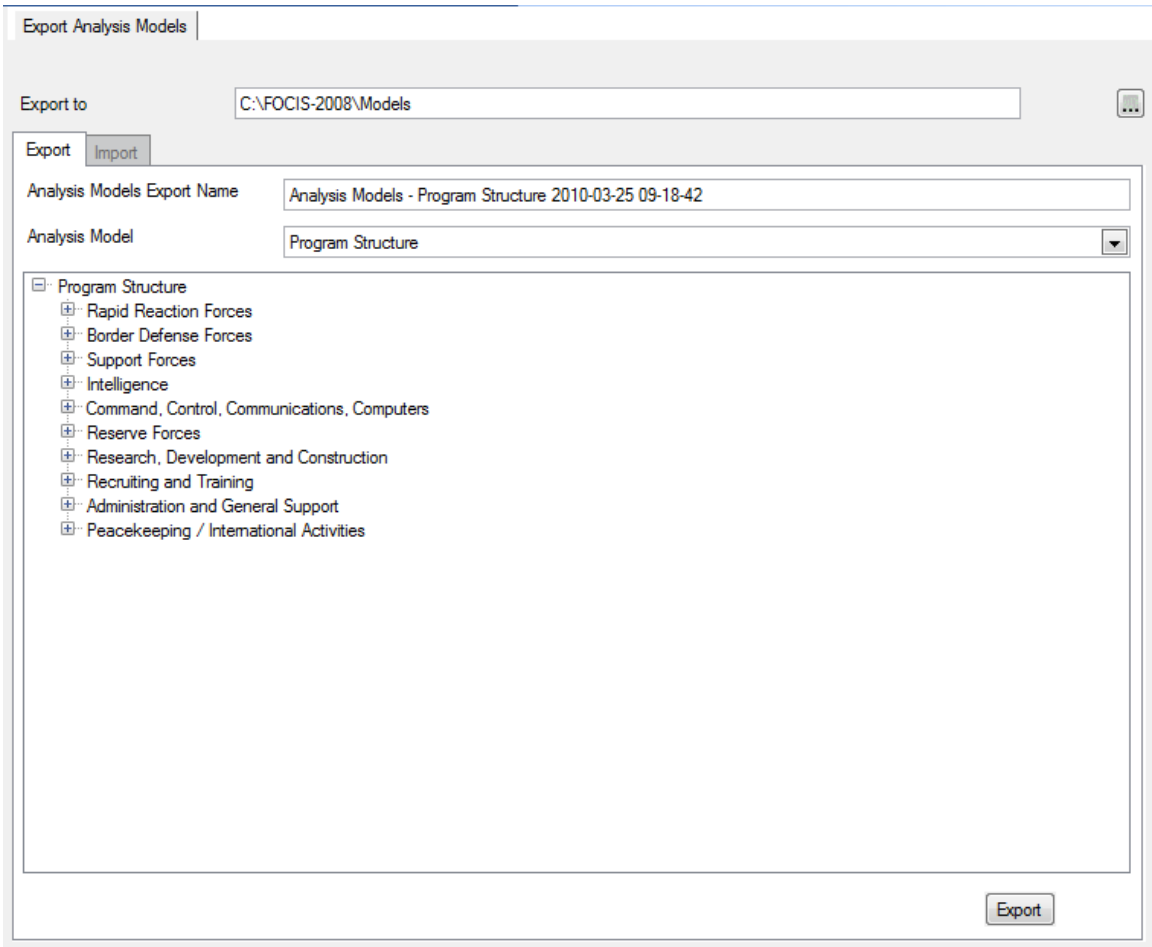


Figure 8-38. Export Single Analysis Model Window

The Export to field at the top of the window displays the location where the exported Analysis Model file will be stored. FOCIS remembers the last selected location by user, but the ... button can be used to change this location. The Analysis Models Export Name field shows the name of the file that will be created. The default is “Analysis Models” plus the Model name plus the current date (yyyy-mm-dd) and time (hh-mm-ss). You can change this name by clicking in the field and retyping the entry. The Analysis Model field shows the name of the Model that will be exported. You select the Model you want to export using the drop-down arrow. When you click the arrow, all current Models are listed.

The area below the selected Model name shows the structure of the Model chosen. Once you have chosen a Model to export, click the **Export** button.

Export Multiple Analysis Models

Figure 8-39 shows the Export Multiple Analysis Models window.

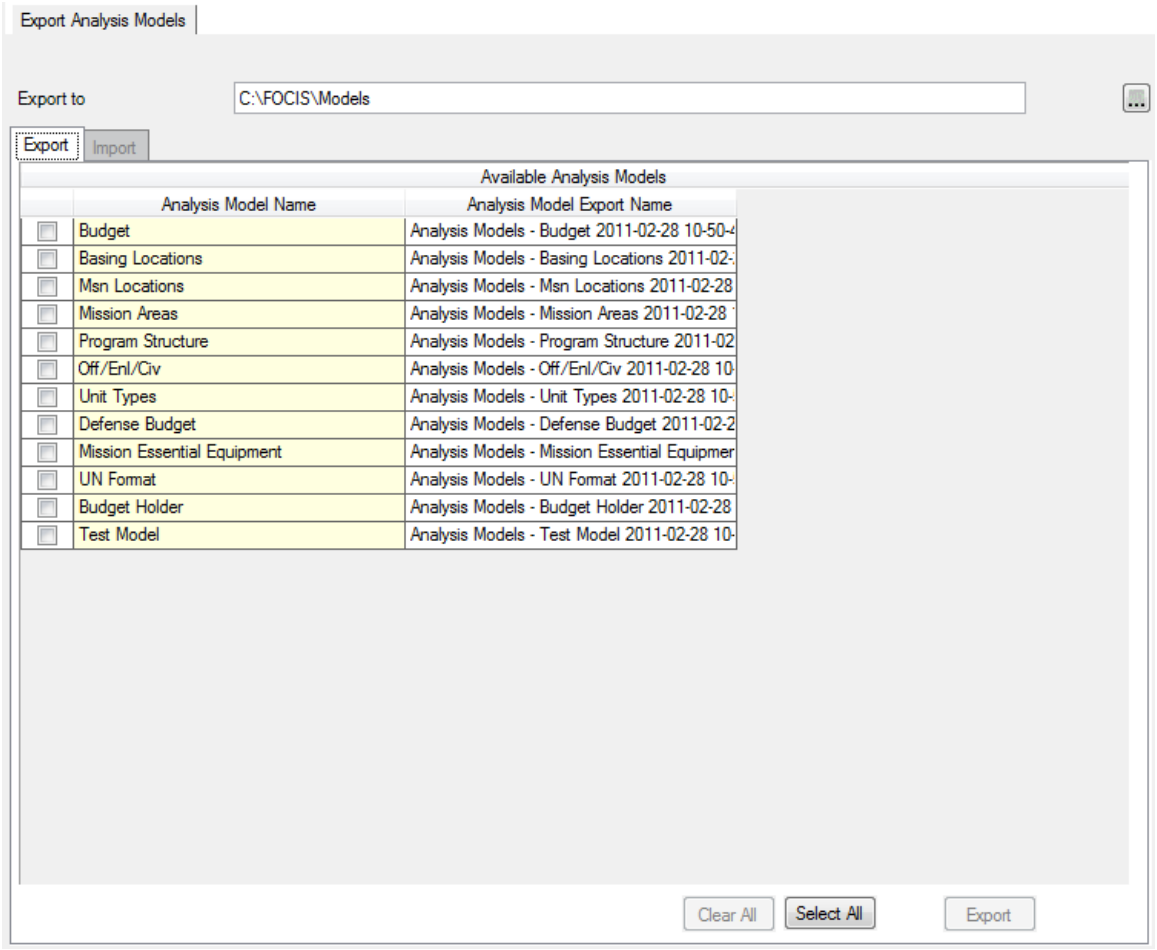


Figure 8-39. Export Multiple Analysis Models Window

The Export to field at the top of the window displays the location where the exported Analysis Model file will be stored. FOCIS remembers the last selected location by user, but the ... button can be used to change this location. The Analysis Model Name column displays the name(s) of the Model(s) that will be exported. The Analysis Model Export Name column displays the name of the file that will be created for each Model. The default is "Analysis Models" plus the Model name plus the current date (yyyy-mm-dd) and time (hh-mm-ss). You can change this name by clicking in the field and retyping the entry. You choose the Model(s) you want to export by selecting the corresponding check boxes. You can also use the **Clear All** and **Select All** buttons at the bottom of the window to make selections. Once you have selected the Models you wish to export, click the **Export** button.

Export Reports

FOCIS provides the capability to export a single Report or multiple Reports.

Export Single Report

Figure 8-40 shows the Export Single Report window.

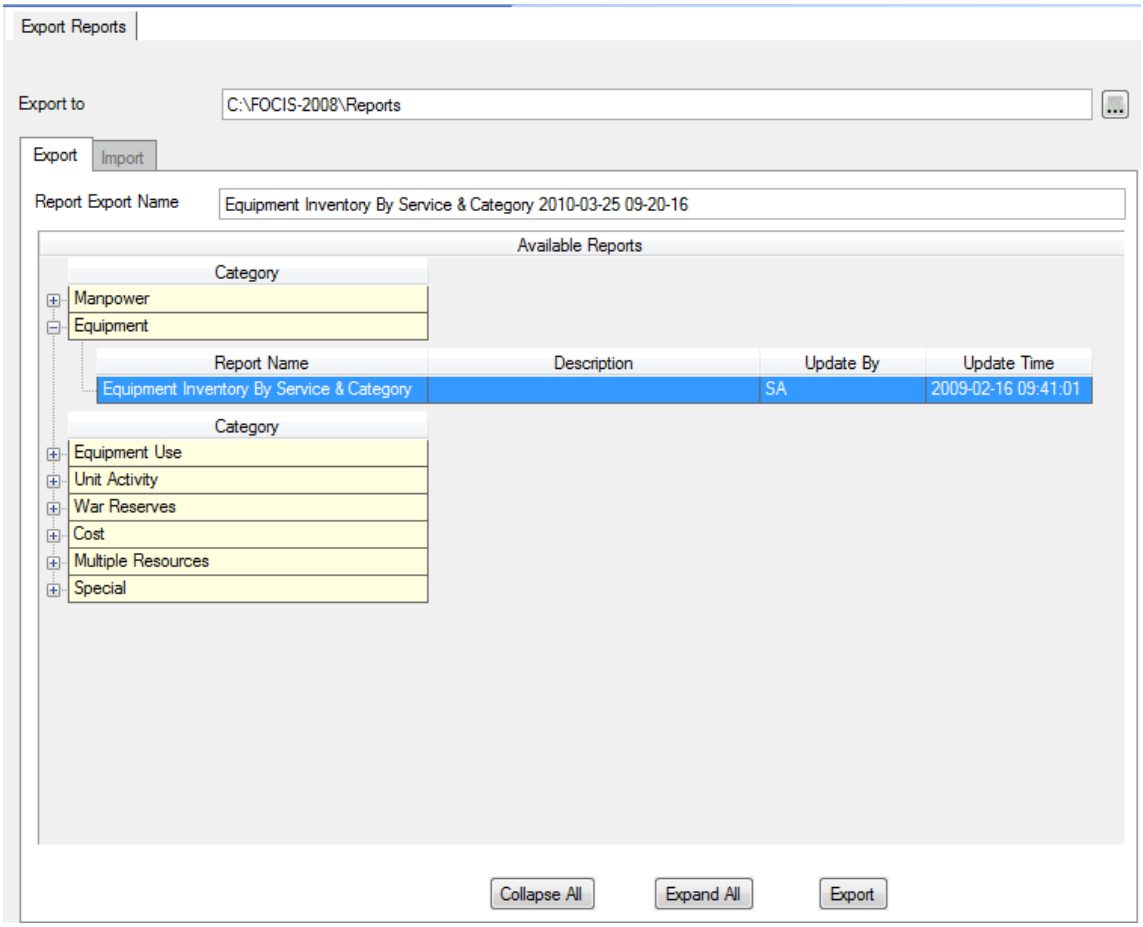


Figure 8-40. Export Single Report Window

The Export to field at the top of the window displays the location where the exported Report file will be stored. FOCIS remembers the last selected location by user, but the ... button can be used to change this location. The Report Export Name field shows the name of the file that will be created. The default is the Report name (based on the Report you choose in the Available Reports area) plus the current date (yyyy-mm-dd) and time (hh-mm-ss). You can change this name by clicking in the field and retyping the entry. The Available Reports area below the Report Export Name field contains a list of possible Reports organized by categories. Use the ⊞ and ⊟ icons to expand and collapse the category displays. You can also click the **Collapse All** and **Expand All** buttons. The Report Name field shows the names of the Reports in each category. Click on a Report name to choose the one you wish to export. Once you have chosen a Report, click the **Export** button.

Export Multiple Reports

Figure 8-41 shows the Export Multiple Reports window.

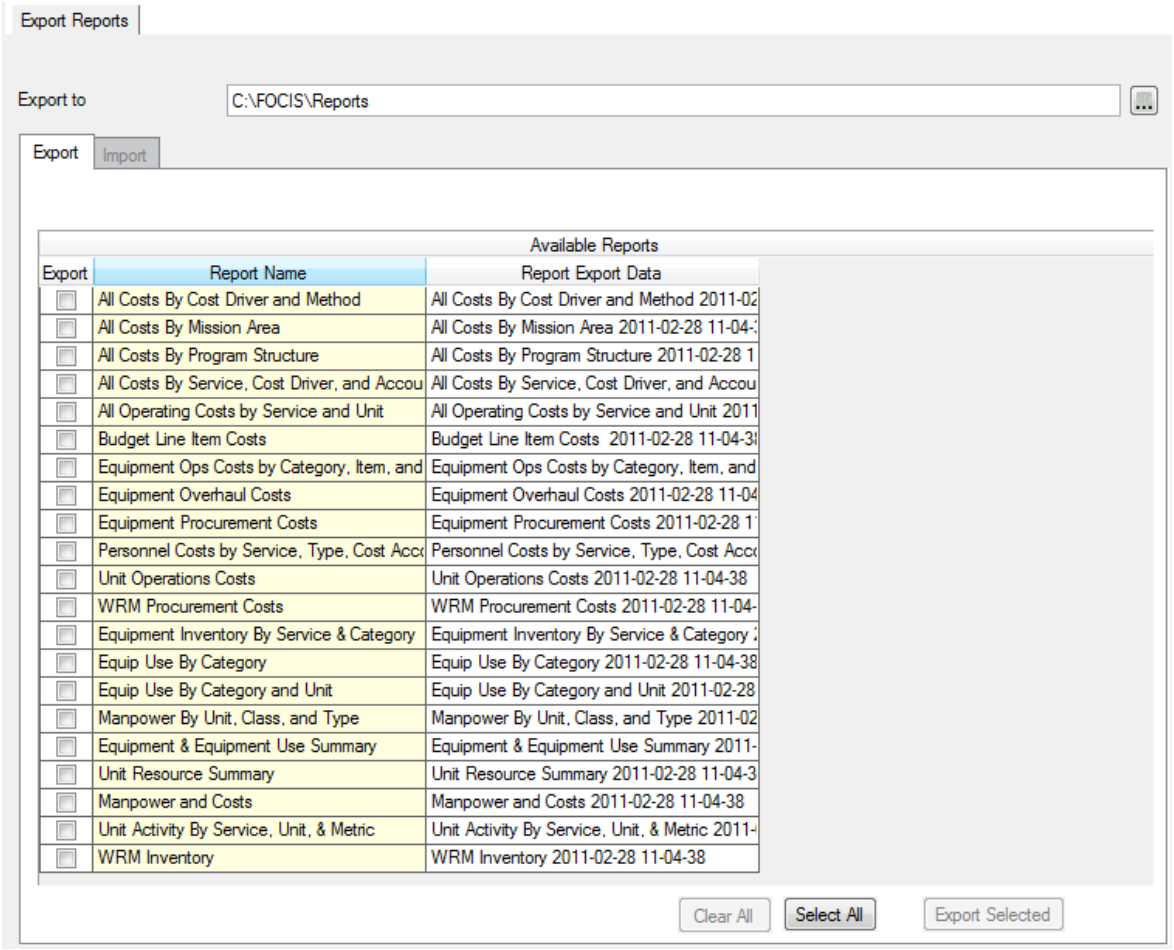


Figure 8-41. Export Multiple Reports Window

The Export to field at the top of the window displays the location where the exported Report files will be stored. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

The Available Reports area shows a list of all Reports that can be exported. Choose the Report(s) you would like to export by selecting the appropriate check box(es). The corresponding entries in the Report Export Data column, showing the name of each file that will be created, will be highlighted. You can also use the **Clear All** and **Select All** buttons at the bottom of the window to make selections. The default name for each Report is the Report Name plus the current date (yyyy-mm-dd) and time (hh-mm-ss). You can change this name by clicking in the Report Export Data field and retyping the entry. Once you have chosen the Reports you would like to export, click the **Export Selected** button.

Export Translations

The Translations export contains both the screen display label translations and the user-modified Terms used on some screens. Figure 8-42 shows the Export Translations window.

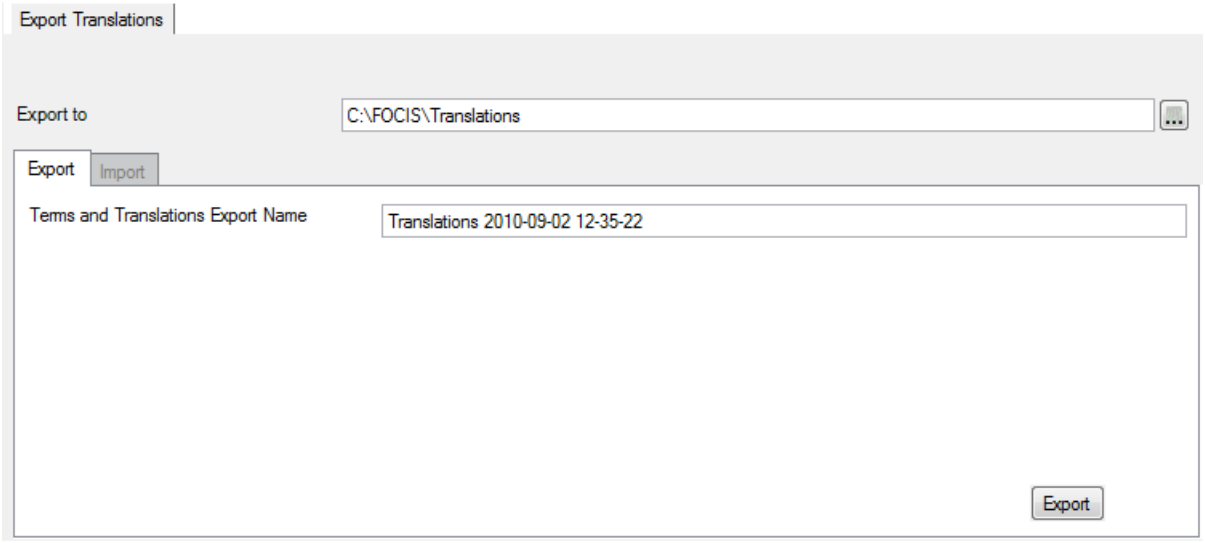


Figure 8-42. Export Translations Window

The Export to field at the top of the window displays the location where the exported Translation file will be stored. FOCIS remembers the last selected location by user, but the button can be used to change this location. The Terms and Translations Export Name field shows the name of the file that will be created. The default is "Translations" plus the current date (yyyy-mm-dd) and time (hh-mm-ss). You can change this name by clicking in the field and retyping the entry.

There are no selections to make when exporting Translations. To export them, simply click the **Export** button.

Import Data

The Import Data functions in the Utilities Work Area allow you to access the data in an Analysis Model, Report, or Translations export file and use them with the current Open Position of the FOCIS installation. Additional functions support importing Unit Resource Data or Cost Data from Excel files. These Excel files are usually prepared by organizations without access to FOCIS and the use of these files greatly facilitates the input of data into FOCIS.

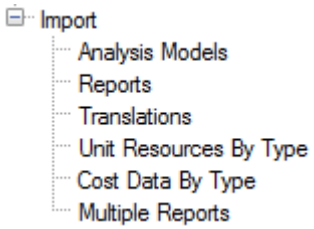


Figure 8-43. Import Data Menu

- Imported **Analysis Models** are added to the Open Position if a prior version of the same Model does not exist in the Position. If the Model being imported does exist,

you have the option to replace that Model and its contents or to create a new Model with the structure and content of the previously exported Model.

- Imported **Reports** are added to the FOCIS System database if a prior version of the same Report does not exist. If the Report being imported does exist, you have the option to replace that Report or to create a new Report from the previously exported Report.

- Imported **Translations** replace the Translations in the current System database subject to choices you make in the Import Translations window. Since Translations affect the System database, you have the option of automatically creating a System backup prior to modifying the Translations.

- Imported **Unit Resources by Type** allow users to update, remove, or add to all types of Unit Resource data for any Units and years, as long as the Units already exist in the Unit Organization in the years where they appear in the data import file.

- Imported **Cost Data by Type** allow users to update, remove, or add to all types of cost data for any Personnel or Equipment Operations costs, as long as the Currency, Cost Account, Service, Personnel Type, Equipment Item Name, and Metric that appear in the data import file already exist in the Open Position database.

Import Analysis Models

FOCIS provides the capability to import a single Analysis Model or multiple Analysis Models.

Import Single Analysis Model

Figure 8-44 shows the Import Single Analysis Model window.

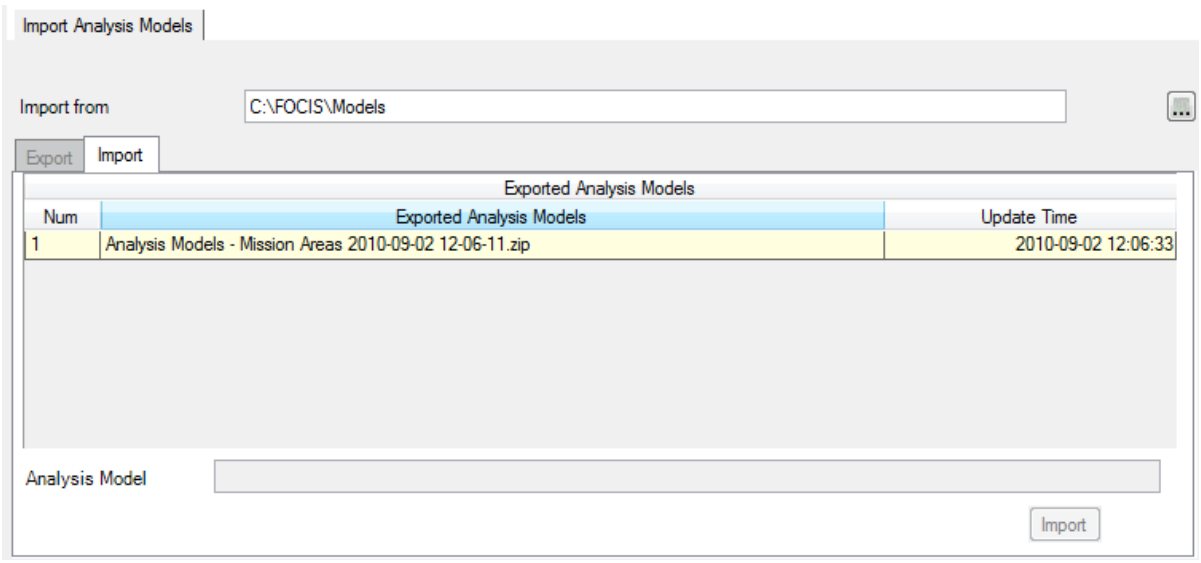


Figure 8-44. Import Single Analysis Model Window

The Import from field at the top of the window displays the location where FOCIS will look for exported Analysis Model files. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

Click on a Model in the list of Exported Analysis Models, then click the **Import** button. If the Model you are trying to import already exists, FOCIS displays the warning message shown in Figure 8-45.

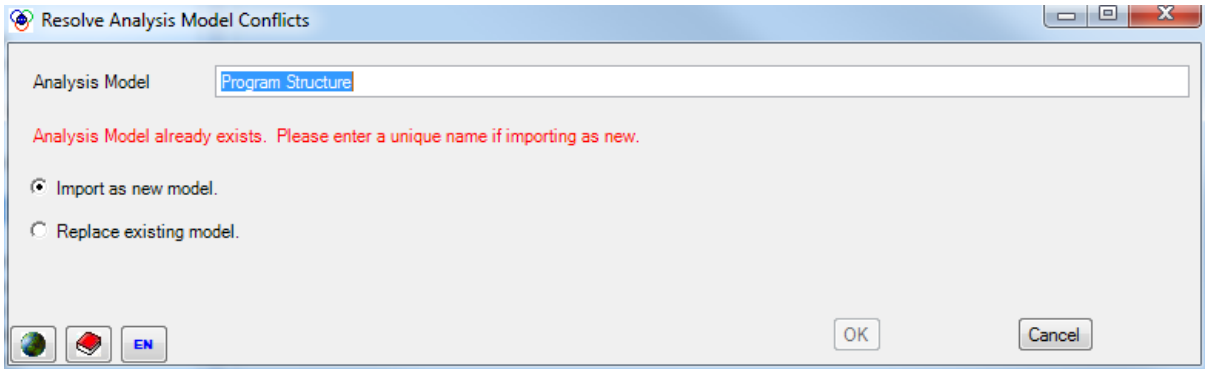


Figure 8-45. Resolve Analysis Model Conflicts Window

The default selection is to import the exported Model data as a new Model, which requires you to give the Model a new name. You can also overwrite the existing Model by clicking the **Replace existing model** option button.

Click the **OK** button to complete the import or click the **Cancel** button to end the import.

Import Multiple Analysis Models

Figure 8-46 shows the Import Multiple Analysis Models window.

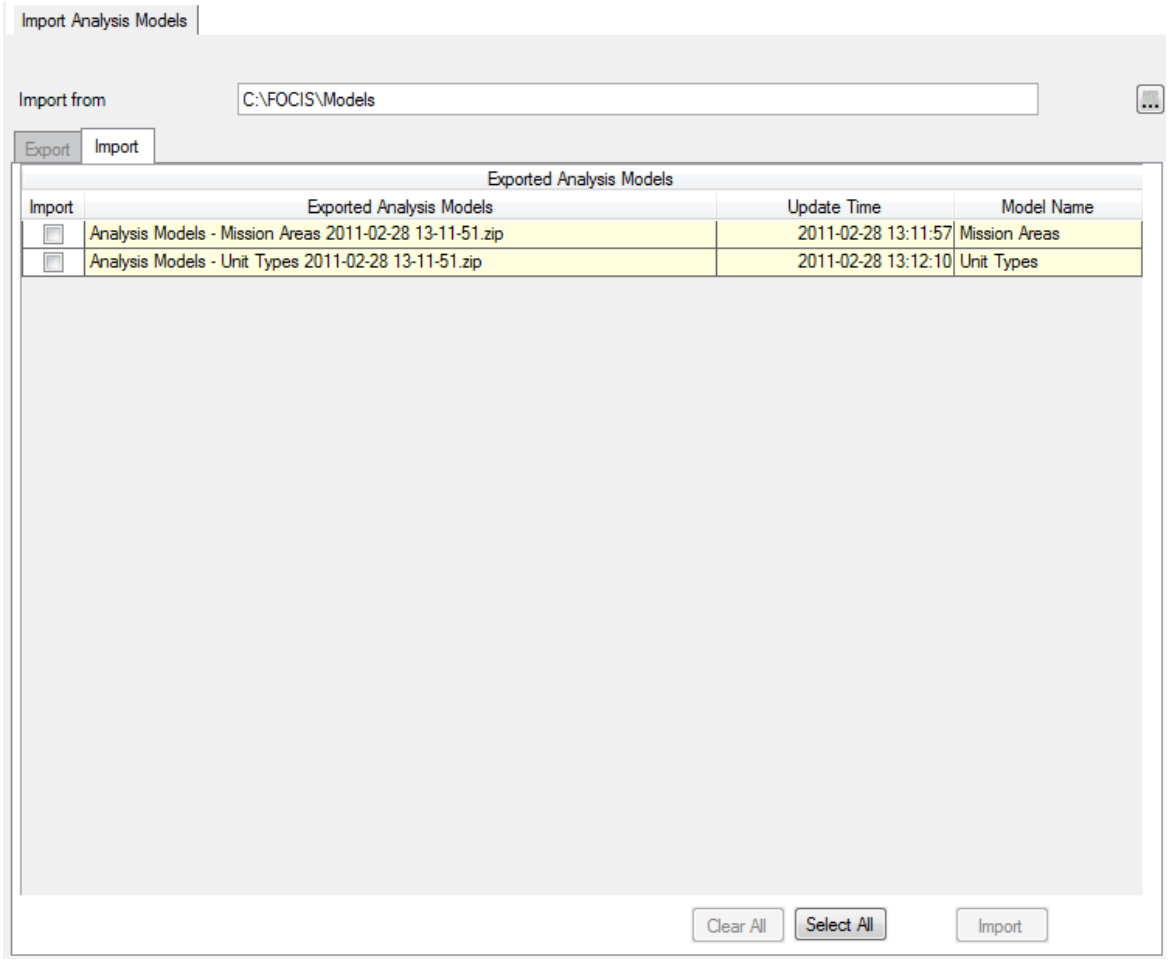


Figure 8-46. Import Multiple Analysis Models Window

The Import from field at the top of the window displays the location where FOCIS will look for exported Analysis Model files. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

Select the appropriate check box(es) for the Model(s) you wish to import from the list of Exported Analysis Models. You can also choose Models by clicking the **Clear All** or **Select All** buttons at the bottom of the window. Once you have selected the Models you wish to import, click the **Import** button.

Import Reports

FOCIS provides the capability to import a single Report or multiple Reports at one time.

Import Single Report

Figure 8-47 shows the Import Single Report window.

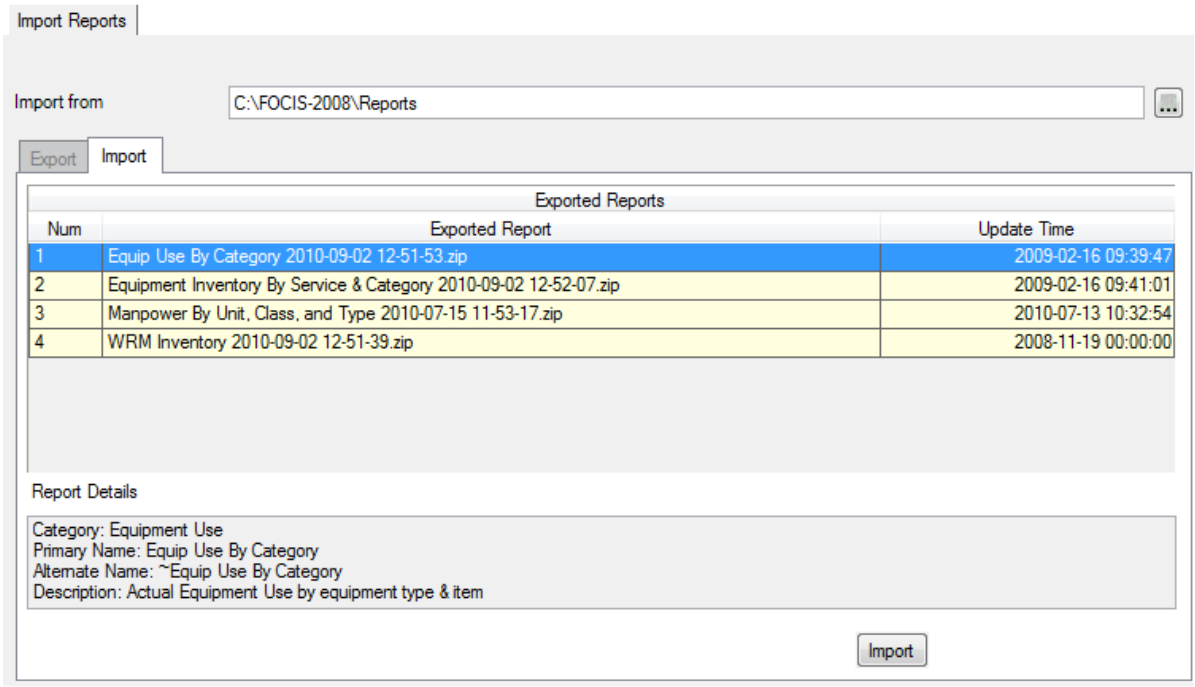


Figure 8-47. Import Single Report Window

The Import from field at the top of the window displays the location where FOCIS will look for exported Report files. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

Click on a Report in the list of Exported Report file names, then click the **Import** button. If the Report you are trying to import already exists, FOCIS displays the warning message shown in Figure 8-48.

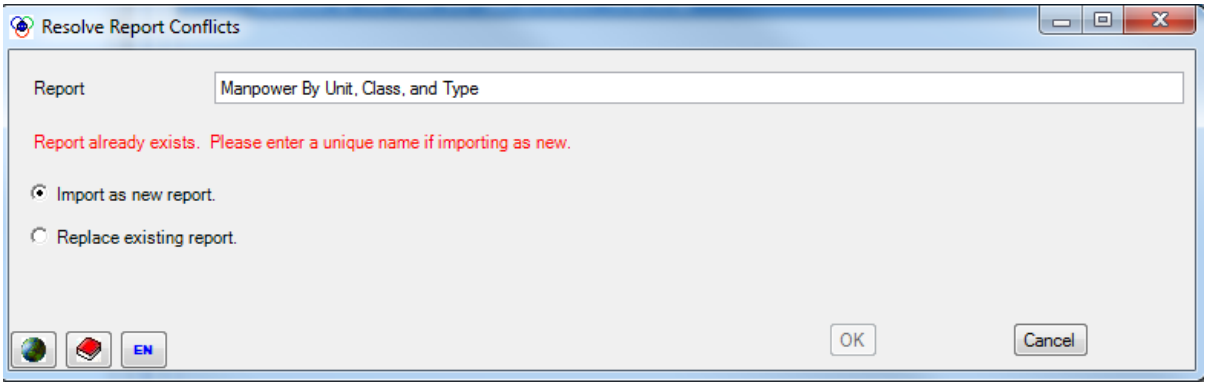


Figure 8-48. Resolve Report Conflicts Message

Select the appropriate radio button to either import with a new name or replace the existing Report. If you choose the **Import as new report** radio button, you must edit the Report name

and then click the **OK** button. If you choose the **Replace existing report** radio button, just click the **OK** button.

Import Multiple Reports

Figure 8-49 shows the Import Multiple Reports window.

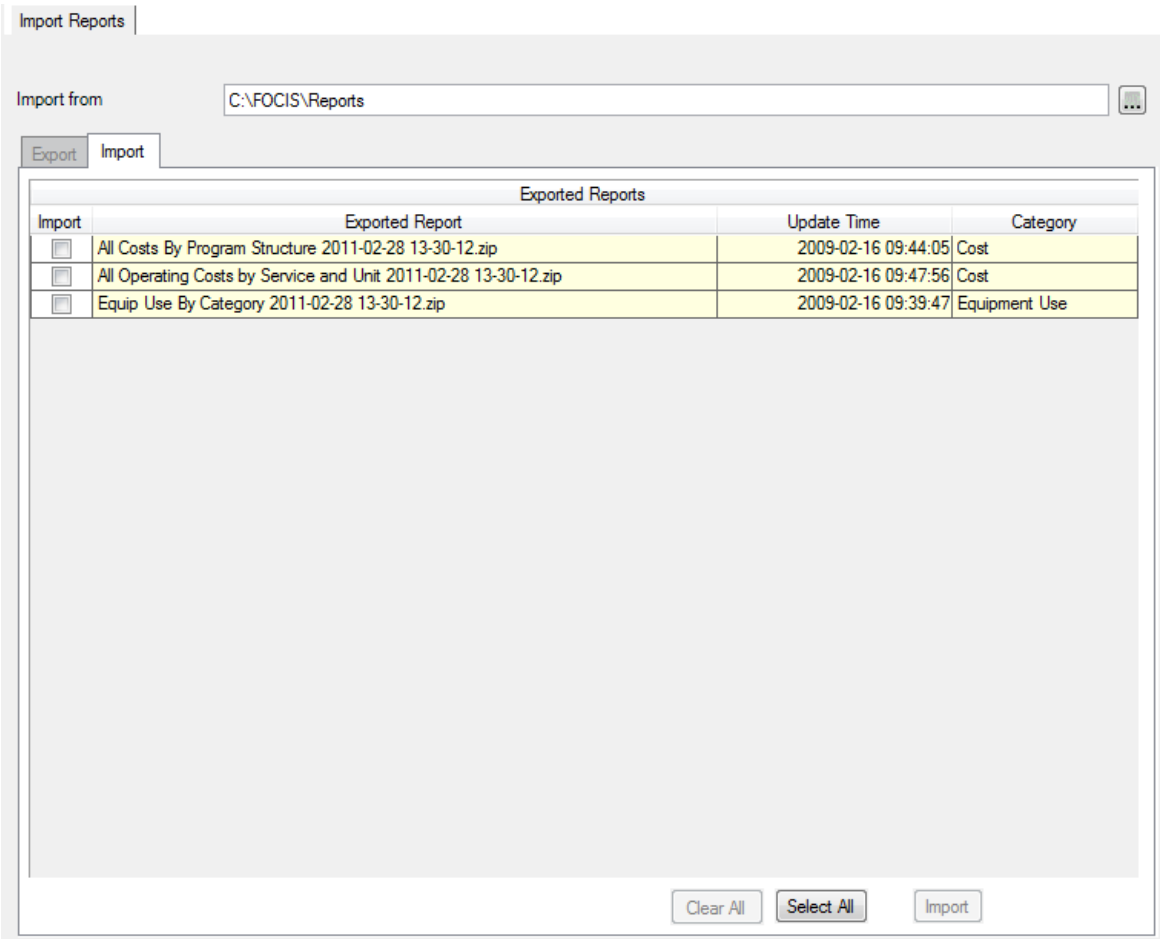


Figure 8-49. Import Multiple Reports Window

The Import from field at the top of the window displays the location where FOCIS will look for exported Report files. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

The Exported Reports area shows a list of all Reports that can be imported. Select the appropriate check box(es) for the Report(s) you wish to import. The corresponding entries in the **Exported Report** column, showing the name of each file that will be imported, will be highlighted. The default name is the Report name plus the date (yyyy-mm-dd) and time (hh-mm-ss) it was exported. You can also choose Reports by clicking the **Clear All** or **Select All** buttons at the bottom of the window. Once you have selected the Reports you wish to import, click the **Import** button. If any of the Reports you want to import have the same name as Reports that already exist in the open position, Figure 8-48 will appear. You will have to

choose to either rename the Report you are importing or replace the existing Report, as described above.

Import Translations

Figure 8-50 shows the Import Translations window.

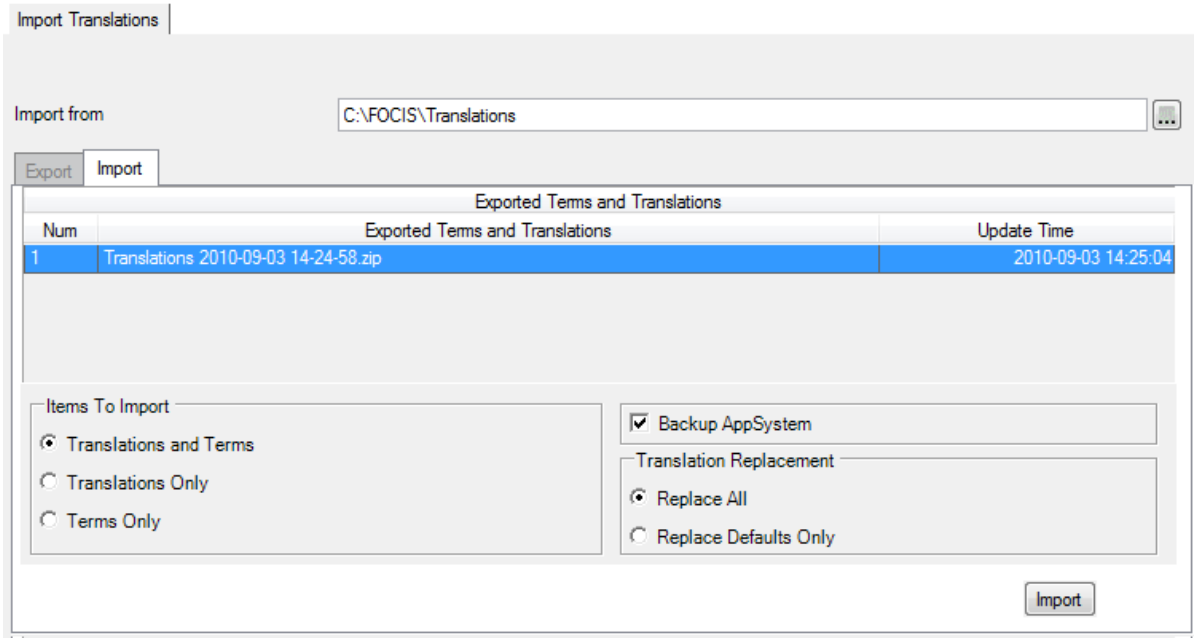


Figure 8-50. Import Translations Window

The Import from field at the top of the window displays the location where FOCIS will look for exported Translations files. FOCIS remembers the last selected location by user, but the ... button can be used to change this location.

There are three sets of choices that you can make before you import Translations. First, in the lower left portion of the window, you can choose whether to import only Translations, only Terms, or both. Translations are text labels that appear on the screen for which the default English cannot be edited. Terms are text labels that FOCIS allows you to modify in both the default and alternative versions. Translations and Terms are edited using the Translation window that is accessed from the icon or from the Utilities Work Area. (See the "Translations" section beginning on page 8-79.)

Second, in the lower right portion of the Import Translations window, you can choose to perform a System backup automatically before the Translations are imported. Select the **Backup AppSystem** check box if you want to create a System backup.

Third, also in the lower right portion of the screen (Figure 8-51), you can choose whether to replace all entries in the Dictionary or only those that have not yet been translated. By default, the **Replace All** option button is selected. If the **Replace Defaults Only** option button is selected, only the entries in the Dictionary that have the default translation (i.e., the

original primary text preceded by the "~" symbol.) will be replaced, and those that already have translations are left unchanged.

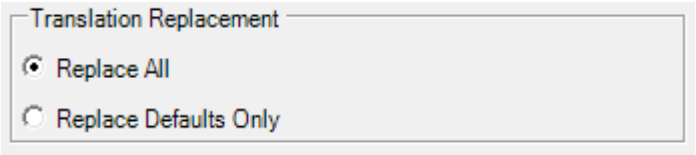


Figure 8-51. Translation Replacement Selection

Once you have made these choices, select a Translations backup file from the Exported Terms and Translations list, then click the **Import** button.

Import Unit Resources by Type

FOCIS allows you to import Unit Resource data (e.g., Manpower, Equipment Inventory, etc.) from an Excel spreadsheet into a Position database. This function allows you to update, remove, or add to all types of Unit Resource data for any Units and years, as long as the Units already exist in the Unit Organization in the years where they appear in the data import file. All Resource categories (e.g., Personnel Types, Equipment Names) that appear in the data import file must already exist in the Open Position database. FOCIS will verify all of these conditions and notify you of any problems before making changes to the FOCIS data. The range of data that can be imported with these two functions is shown in Table 8-2.

Table 8-2. Import Unit Resources Data Ranges

Import Function	Units Per Import File	Resource Types Per Import File
Resources By Type	One or more	One
Resources By Unit	One	One or more

The data import capabilities are accessed from the Utilities Work Area under the **Data Functions/Import** menu.

FOCIS provides tools to import data from an Excel spreadsheet where the data in the import data file contain only one type of Resource (i.e., Manpower, Equipment, Equipment Use, Unit Activity, or War Reserves). These data may include:

- One or more Units
- One or more years
- One or more data types (e.g., Actual, Authorized)
- One or more Resource categories (e.g., Personnel Types, Equipment Items)

Import Methods

FOCIS provides two methods to import Unit Resource data from files with one type of Resource: (1) replace only matching data entries and add new data, or (2) replace all data for

Unit-year combinations. The effect of the import on the data in the Open Position database can be quite different depending on which method is chosen. In general terms, the second method should only be used when replacing all data types (e.g., Actual, Authorized, Storage) of the selected Resource Type for the Units and years in the import data worksheet. It is also a good practice to back up the Position data, especially before using Method 2. To minimize the chance that Method 2 has been selected accidentally, a warning message is shown when you click the **Import** button and choose Method 2. Figure 8-52 displays the Import Unit Resource window.

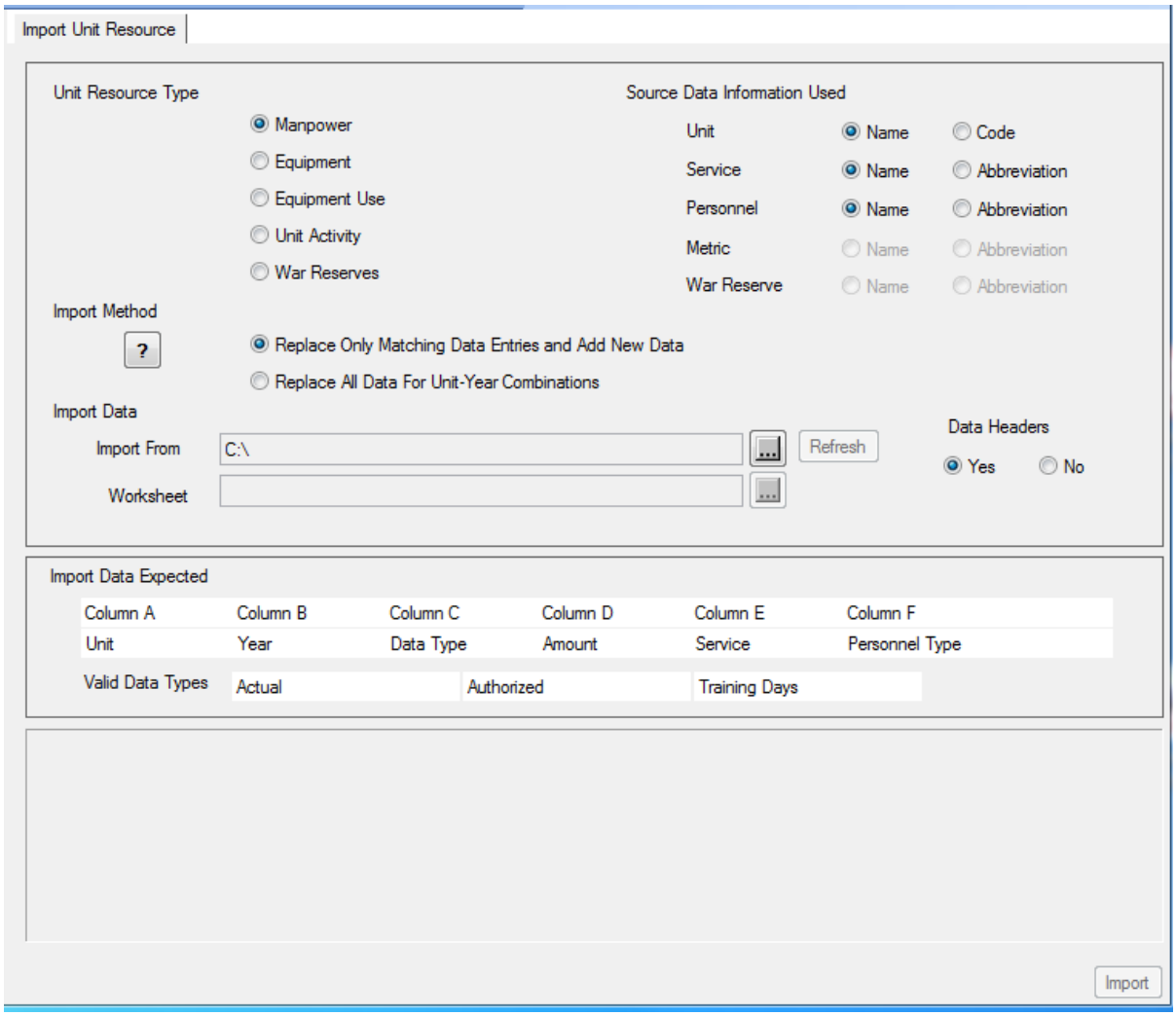


Figure 8-52. Import Unit Resource Window

Import Method 1. Replace Only Matching Data Entries and Add New Data

FOCIS updates the values in the Open Position database where there are matching entries in the import data. Matching is based on Unit, year, data type (e.g., Actual, Authorized), and other data characteristics (e.g., Personnel Type, Equipment Name).

Import Method 2. Replace All Data for Unit-Year Combinations

FOCIS removes all data of the selected Resource type in the Open Position database for all combinations of Unit and year in the selected worksheet and then replaces them with the data from the import file. Use this method only to replace all data of the selected Resource Type in the Units and years in the worksheet. (Since all data of the selected Resource Type is removed and replaced with only data in the selected worksheet, this method must be used carefully to avoid deleting unexpected data. For example, if the import worksheet only has data for Actual Equipment quantities, all Authorized quantities will become zero when importing using this method.)

The following example illustrates how the choice of the import method affects the Position data after the import is complete.

Example: The import data file worksheet has Equipment data for only:

- Actual quantities
- Light trucks
- 20 Units
- 2008

Method 1: After the Import is complete, the actual quantities of Light Trucks will be changed in the 20 Units in the worksheet data for year 2008. **Authorized quantities of Light Trucks will not be changed in 2008 since there was no Authorized data in the worksheet.**

Method 2: After the Import is complete, the only Equipment inventory data in 2008 for the 20 Units that appear in the worksheet will be Actual quantities of Light Trucks. **The Authorized quantities of Light Trucks will be zero (0) in 2008.**

Either Method: Equipment data in years that are not 2008 will not be affected. Equipment data for 2008 will only be changed for the Units listed in the worksheet. Data for other types of Resource (e.g., Manpower) will not be removed or modified in any Units in any years with one exception—any Equipment Use data for any Equipment Items other than Light Trucks will be removed from the 20 Units that appear in the worksheet. (This is to prevent having Equipment Usage in a Unit and year when there is no Equipment.)

Import by Unit Resource Type from an Excel Worksheet

The Import Unit Resource window for Excel files is shown in Figure 8-53.

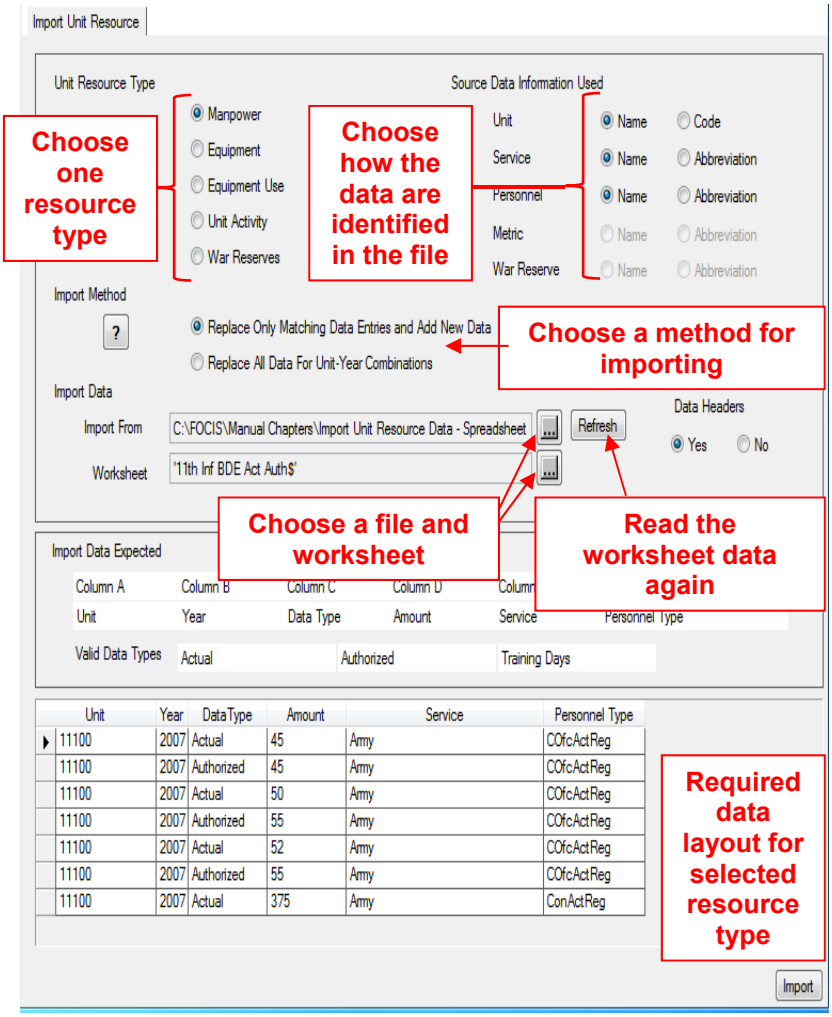


Figure 8-53. Import Unit Resource Window for Excel Files

To use this import function:

1. Select the Unit Resource Type that matches the data in the file to import.
2. Choose how the data in the columns of the spreadsheet have been prepared (e.g., name or abbreviation) using the option buttons in the Source Data Information Used area in the upper right corner of the window.
3. Choose an import method.
4. Select the data file and worksheet to import and indicate whether the data file contains a header row.
5. Click the **Import** button.

At any time, you can go back and reset the Resource Type or any of the choices of the types of Source Data used (names or abbreviations) even if the initial attempt to import the data

caused a warning message. You can choose a different worksheet or workbook at any time. You can open the workbook in Excel, modify the data, save the workbook data, then re-select the same worksheet (to cause FOCIS to read the file again) and try the Import again.

Select the Resource Type. The Unit Resource Import function is able to work with data for only one type of Unit Resource at a time. Click the option button for the Unit Resource Type you want to import, as shown in Figure 8-54.

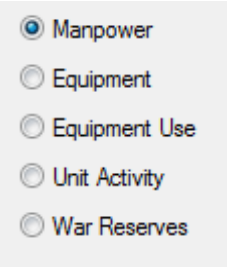


Figure 8-54. Resource Type Selections

Select the Data to Import. Use the ... button to the right of the **Import From** field to select the desired Excel file, as shown in Figure 8-55.

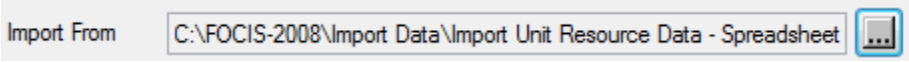
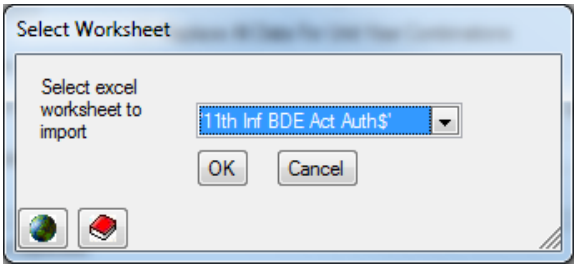


Figure 8-55. Import From Field and Browse Button

When an Excel file has been selected, FOCIS will show a small window similar to the one in Figure 8-56, where all worksheets in the workbook are listed in a drop-down list. The name of a worksheet may include an apostrophe or extra symbols (e.g., $, _, etc.) at the beginning or end of the worksheet name. Different versions of Excel use different symbols, and you should ignore these symbols when choosing a worksheet. Excel also sometimes creates totally hidden worksheets when some functions are used to manipulate data. You may see a worksheet name that you do not recognize or want to use. Do not choose a worksheet name you do not recognize.

Select Worksheet Window



Typical Worksheet Selections
(Notice extra symbols in the names)

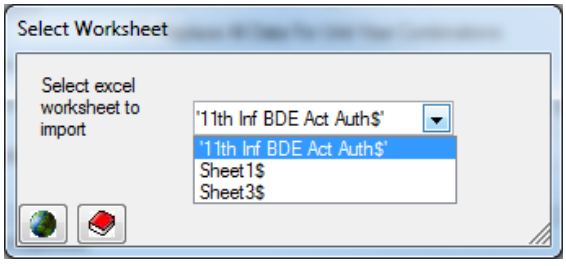


Figure 8-56. Select Worksheet Window

After choosing a worksheet, the Excel file name and worksheet name are shown (Figure 8-57). You can select a different worksheet in the selected workbook at any time by clicking the ... button to the right of the Worksheet field as often as desired.

Figure 8-57. Import From and Worksheet Fields with Names Displayed

Sometimes FOCIS may identify a problem with the data in the import file during the Import process and you may need to open the Excel file to fix the problem. After you have corrected the problem, you can save the Excel file and use the **Refresh** button to re-read the selected worksheet.

Data Display. When you have chosen the filename and worksheet, FOCIS attempts to read the data and, if the format is correct, the data are shown at the bottom of the Import Unit Resource window, as shown in Figure 8-58.

Unit	Year	DataType	Amount	Service	Personnel Type
11100	2007	Actual	45	Army	COfcActReg
11100	2007	Authorized	45	Army	COfcActReg
11100	2007	Actual	50	Army	COfcActReg
11100	2007	Authorized	55	Army	COfcActReg
11100	2007	Actual	52	Army	COfcActReg
11100	2007	Authorized	55	Army	COfcActReg
11100	2007	Actual	375	Army	ConActReg

Figure 8-58. Data Display

Select the Use of Header Information. Some data files use the first row of information to identify what type of data are in each column. When the first row contains this type of information it is important to tell FOCIS how to interpret these entries. If the first row in the worksheet contains column headers, set the **Data Header**s option button to **Yes** as shown in Figure 8-59. When you do that, you will see the header information listed as column headers in the data display.

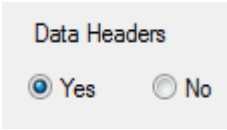


Figure 8-59. Data Headers Selection

Content and Layout of the Worksheet Data

When you have chosen the Resource Type, FOCIS shows the layout of the data expected in the import file in the lower half of the window. The example in Figure 8-60 shows the layout for an import file with Manpower data.

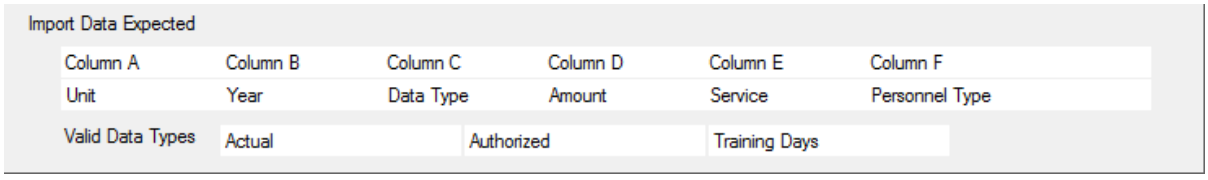


Figure 8-60. Import Data Expected Layout

The first two rows show the types of data FOCIS expects to find in each column. FOCIS will always interpret the data in the data file as follows:

- Column A: Unit Name or Unit Code
- Column B: Year, in the format **yyyy** - a 4-digit number
- Column C: A text entry that has the exact spelling of one of the Data Types that applies to the selected Resource Type (The valid Data Types are shown below the expected data layout.)
- Column D: An integer greater than or equal to zero
- Columns E and F: Data item identifiers that will vary, depending on the Resource Type chosen

Table 8-3 displays the expected import file data contents by Resource Type.

Table 8-3. Expected Import File Data Contents by Resource Type

<table>
<tr><th rowspan="2">Resource Type</th><th colspan="6">Import File Data Column</th></tr>
<tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th></tr>
<tr><td>Manpower</td><td rowspan="6">Unit</td><td rowspan="6">Year</td><td rowspan="6">Data Type</td><td rowspan="6">Amount</td><td>Service Name or Abbreviation</td><td>Personnel Type Name or Abbreviation</td></tr>
<tr><td>Equipment</td><td>Equipment Name</td><td>Not Used</td></tr>
<tr><td>Equipment Use</td><td>Equipment Name</td><td>Metric Name or Abbreviation</td></tr>
<tr><td>Unit Activity</td><td>Metric Name or Abbreviation</td><td></td></tr>
<tr><td>War Reserve</td><td>War Reserve Name or Abbreviation</td><td></td></tr>
<tr><td>Notes:</td><td>Name or Code</td><td>YYYY</td><td>Valid Data Types as shown in Table 8-4</td><td>Number must be ≥ zero</td><td colspan="2">Entries (names or abbreviations) in above columns must exist in Setup tables</td></tr>
</table>

Valid Unit and Year Data: Every row in the data import file (other than the header row) must identify a Unit and Year combination that already exists in the Open Position database.

Valid Data Type Entries: Every row in the data import file (other than the header row) must contain a valid Data Type in the third column. The data to be imported may include any or all of the valid Data Types. FOCIS lists the valid Data Types below the list of column contents. This list is based on the Resource Type chosen. The status of the label icon (or) affects the Data Type labels that FOCIS will accept. If the user has tailored FOCIS Data Type Terms using the FOCIS Dictionary window, FOCIS will expect to find the Terms and Translations currently in effect in the data file. For clarity, the valid Data Types are shown in the display. Table 8-4 shows the valid Data Types, by Resource Type, from the default FOCIS installation.

Table 8-4. Valid Data Types by Resource Type

Resource	Valid Data Types			
Manpower	Actual	Authorized	Training Days	
Equipment	Actual	Authorized	Storage	MC Rate
Equipment Use	Actual	Desired		
Unit Activity	Actual	Desired		
War Reserve	Actual	Desired		

The data file cannot have duplicate entries—that is, the combinations of entries in Columns A, B, C, E, and F must be unique within the data file. If duplicates are found, this condition will be reported in a warning message and the import will be suspended.

Preparing Data Files for Import

Import data can come from a variety of sources, but must end up in an Excel workbook in the format described above. One way to prepare a file that can be used to import data is to use FOCIS Reports to export data to an Excel file, modify that data manually in Excel, then re-import it. This section describes how to do that, using the Manpower Resource Type as an example.

The first step in preparing any file with data to import is to make sure you know the columns that must exist for the type of data included. In the case of Manpower import data, the data file needs:

- Column A Unit Name or Unit Code
- Column B Year
- Column C Data Type (i.e., Actual, Authorized, or Training Days)
- Column D Amount
- Column E Service Name or Service Abbreviation
- Column F Personnel Type or Personnel Type Abbreviation

We will start by creating a FOCIS Report with the required data and then, in Excel, make some relatively minor changes to create the file content FOCIS will need. Creating Reports to support data imports may require some techniques you may not have used before. (Instructions for creating Reports in an Excel pivot table layout can be found in Chapter 7 of this Manual.) The sample in Figure 8-61 shows the layout for a Report (named Manpower Import Data Format) that you could use. In this case, the saved Report was opened and, using the Report Data window (accessed by clicking the **Data** button at the bottom of the Report window), the Data Range field was set to only include data for the 1st Corp HQ and its

subordinates. (You select the **Unit and subordinates** option button and then drill down to the appropriate Unit level.)

Note: **Actual** and **Authorized** are called "Data Items" here, not "Data Types." When you do your final data formatting, you will change the column heading from "Data Item" to 'Data Type."

Figure 8-61. Manpower Import Data Format Layout

Notes:

- The Filters area includes the Personnel Class filter so you can limit the data in the Report to only the Personnel Classes you want to include in the file. Other filters could be added to further adjust the data content to that desired in the data file.
- Make sure the Year data field's filter is set to include only the years you want in the data file.
- The data items Actual and Authorized are included. Either could have been omitted if desired, or Days could have been added if Reserve manpower training days are to be included.
- The Rows area of the pivot table layout includes Command Order so that the Units will be listed in the order they appear in the Unit Organization. It the Units were to be listed alphabetically, this data field would be omitted from the Rows area. When Command Order is left in the Report layout, we will delete this row in the exported Excel worksheet as part of final data formatting, as FOCIS does not use Command Order as part of the import data.
- The Rows area of the pivot table also includes the Data Item and Year data items that you may normally use as pivot table columns. Using these as Rows makes preparation of the data file formatted the way FOCIS expects much easier.

Using this layout, the report looks like the sample shown in Figure 8-62.

Command Order	Unit Name	Year	Budgeting ...	Personnel Type	Data Item	Grand Total
01.01.01.01.	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Actual	3
					Authorized	3
				Field Grade Officer (Active/Avg Pay)	Actual	7
					Authorized	10
				Company Grade Officer (Active/Reg)	Actual	7
					Authorized	10
				Enlisted (Active/Regular)	Actual	14
					Authorized	20
				Conscript (Active/Regular)	Actual	7
					Authorized	10

Figure 8-62. Sample Report Contents Layout

The next step is to use the Export function to generate the Excel file. When the Export function button

is clicked, the Export Options window appears, displaying options as shown in Figure 8-63. When creating a data file for importing purposes, it is important to select the **All Table Data** option button in the Report Format area. **This is a very important step**. If you do not select this option, the data will not be in the correct format for importing.

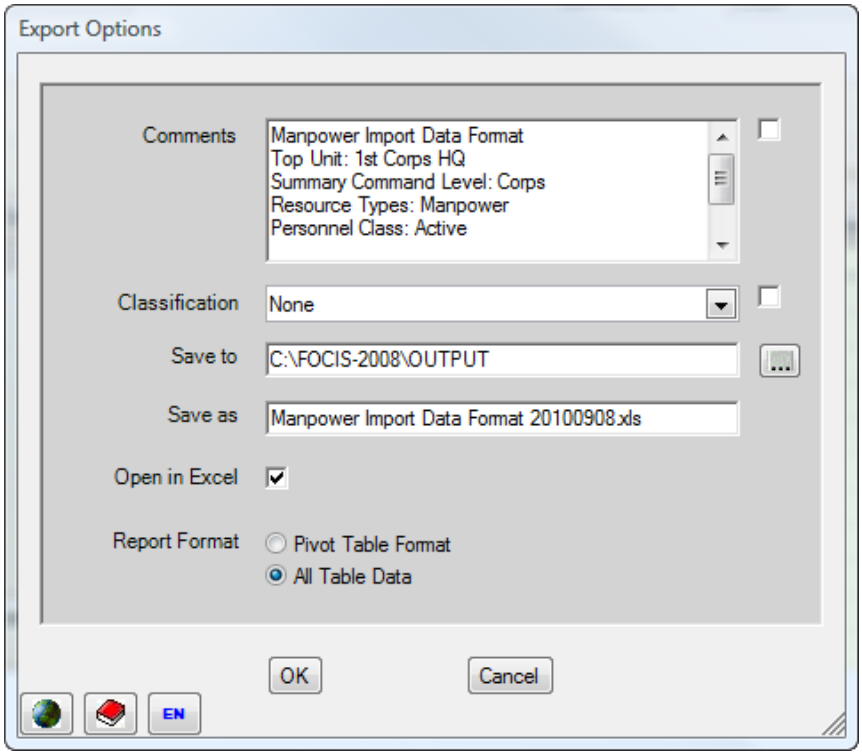


Figure 8-63. Export Options Window

If you have set up the report properly, the exported data will appear as shown in Figure 8-64.

	A	B	C	D	E	F	G
1	Command Order	Unit Name	Year	Budgeting Service	Personnel Type	Data Item	Grand Total
2	01.01.01.01.	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Actual	3
3	01.01.01.01.	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Authorized	3
4	01.01.01.01.	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Actual	31
5	01.01.01.01.	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Authorized	43
6	01.01.01.01.	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Actual	276
7	01.01.01.01.	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Authorized	390

Figure 8-64. Sample Exported Data

You will now need to do the following to make this into the exact format FOCIS expects.

14. Remove all merged cells by right-clicking in the blank cell in the upper left corner of the worksheet and following the steps illustrated in Figure 8-65.

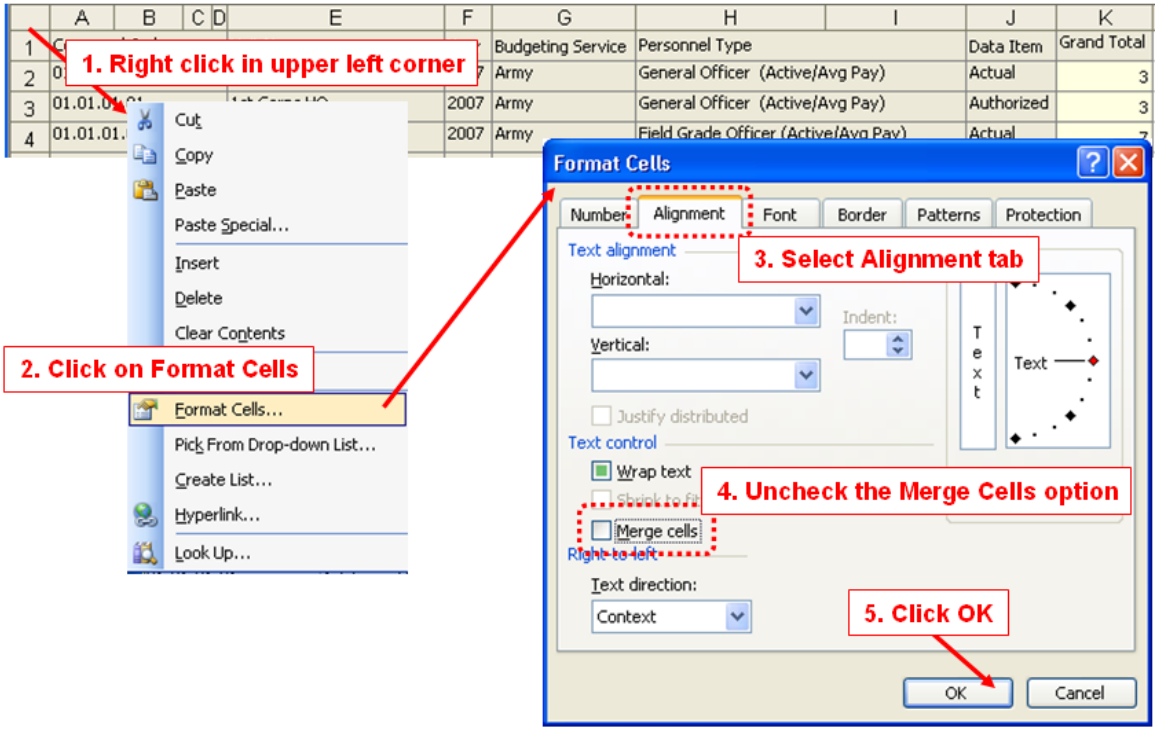


Figure 8-65. Process for Removing All Merged Cells

15. After removing the merged cells, delete blank and unnecessary columns. In the example in Figure 8-66, you would delete column A, and the result would be as shown in Figure 8-67.

	A	B	C	D	E	F	G
1	Command Order	Unit Name	Year	Budgeting Service	Personnel Type	Data Item	Grand Total
2	01.01.01.01.	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Actual	3
3	01.01.01.01.	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Authorized	3
4	01.01.01.01.	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Actual	31
5	01.01.01.01.	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Authorized	43
6	01.01.01.01.	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Actual	276
7	01.01.01.01.	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Authorized	390

Figure 8-66. Sample Data Containing Blank and Unnecessary Columns

	A	B	C	D	E	F
1	Unit Name	Year	Budgeting Service	Personnel Type	Data Item	Grand Total
2	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Actual	3
3	1st Corps HQ	2007	Army	General Officer (Active/Avg Pay)	Authorized	3
4	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Actual	31
5	1st Corps HQ	2007	Army	Field Grade Officer (Active/Avg Pay)	Authorized	43
6	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Actual	276
7	1st Corps HQ	2007	Army	Company Grade Officer (Active/Regular)	Authorized	390

Figure 8-67. Sample Data with Column Deleted

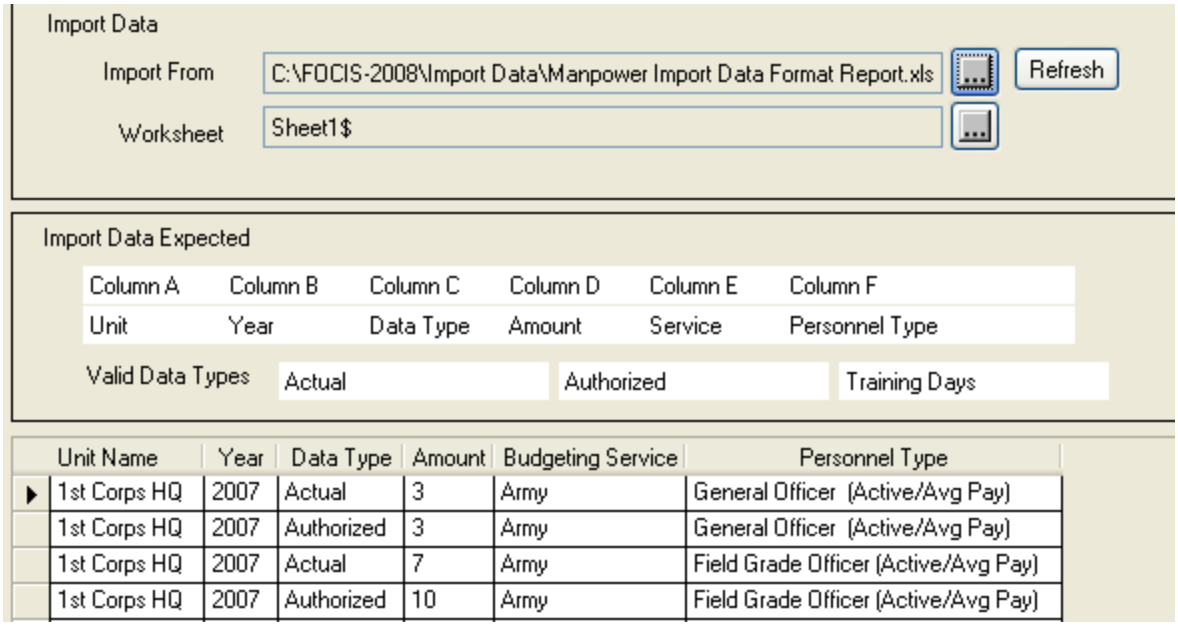
16. Now, change the “Data Item” column header to “Data Type” and the “Grand Total” column header to “Amount.” (These changes are for clarity and your convenience only. FOCIS will accept the data file with any data header labels.)
17. Using Excel’s “Cut and Paste” functions, re-arrange the columns as shown in Figure 8-68.

	A	B	C	D	E	F
1	Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
2	1st Corps HQ	2007	Actual	3	Army	General Officer (Active/Avg Pay)
3	1st Corps HQ	2007	Authorized	3	Army	General Officer (Active/Avg Pay)
4	1st Corps HQ	2007	Actual	31	Army	Field Grade Officer (Active/Avg Pay)
5	1st Corps HQ	2007	Authorized	43	Army	Field Grade Officer (Active/Avg Pay)
6	1st Corps HQ	2007	Actual	276	Army	Company Grade Officer (Active/Regular)
7	1st Corps HQ	2007	Authorized	390	Army	Company Grade Officer (Active/Regular)

Figure 8-68. Rearranged Data Columns

18. You may want to rename the default worksheet tab from “Sheet 1” to something more meaningful. (**This is an optional step**. FOCIS will accept any worksheet tab names you use.)

You may now revise the Amount entries and import data from this file. Figure 8-69 shows the result of using the Data Import functions with the data file created following the instructions above.



Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
1st Corps HQ	2007	Actual	3	Army	General Officer (Active/Avg Pay)
1st Corps HQ	2007	Authorized	3	Army	General Officer (Active/Avg Pay)
1st Corps HQ	2007	Actual	7	Army	Field Grade Officer (Active/Avg Pay)
1st Corps HQ	2007	Authorized	10	Army	Field Grade Officer (Active/Avg Pay)

Figure 8-69. Rearranged and Revised Data to be Imported

The procedures provided in detail above work well when Unit Resource data have already been entered in a database. Different techniques would be used to prepare an Excel worksheet to initially populate Unit Data after the Unit Organization structure has been created. The FOCIS “Units by Year” report can be used to prepare a list of all Unit Names, which can then be exported to an Excel workbook. Additional Excel worksheets can be created for each type of Setup data (e.g., Services, Personnel Types, and Equipment Names). By combining the appropriate Setup data items with the Unit Names, worksheets can be created for use by staff members who are not trained in the use of FOCIS to provide data. Instead of manually typing in all of this data, the Data Import function can be used to populate the database—even when no Unit Data previously exist.

When data exist in an electronic form, it is often possible to have that data exported to a file format that can be read by Excel. These data will often need to be further modified to put them in the format FOCIS expects. When planning to transfer data from some other data source, it is often useful to use the Unit Codes rather than the Unit Names as the basis for identifying Units. As long as the Unit Codes have already been entered in the FOCIS Position database, the import process can match these with the correct Units.

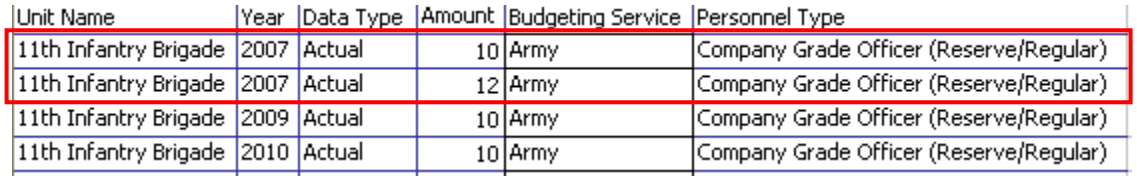
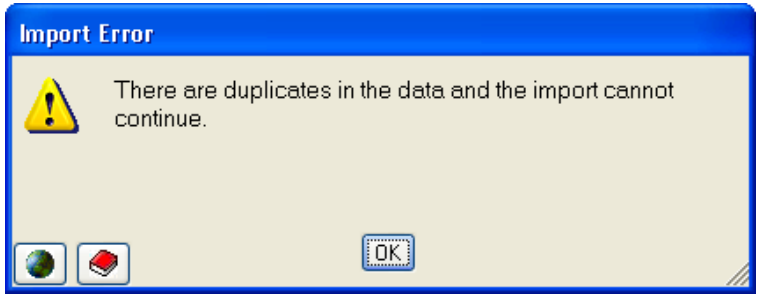
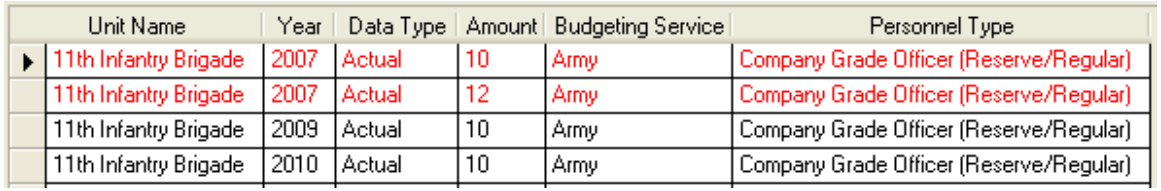
Warning Messages

When you click the **Import** button, FOCIS compares the data in the import file with the Unit Organization structure and Setup data in the Open Position database. If FOCIS finds any problems, it stops the import action and displays a warning message. FOCIS makes these comparisons based on the type of Resource; e.g., if Manpower is selected, FOCIS compares the contents of Column E to the Setup data for Services. If a displayed warning message does not seem to apply, check for the following frequently encountered problems:

- Is the Resource Type setting consistent with the type of data in the import file?
- Is the setting for unit identification (i.e., Name or Unit Code) consistent with how Unit Data appears in Column A?
- Are the settings for the data characteristics (i.e., Name or Abbreviation) consistent with how Unit Data appears in Columns E and F?
- Is the content of the first row of the data file consistent with the setting for whether data headers are used?

If all of these conditions are set correctly, FOCIS's warning messages will provide a useful indication of any problems in the data import file. The five warning messages are discussed below along with examples of the types of conditions that will generate each message.

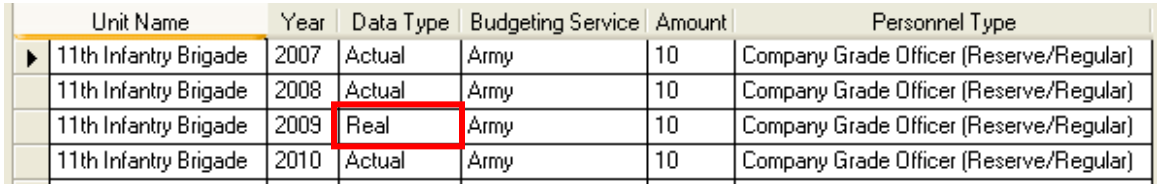
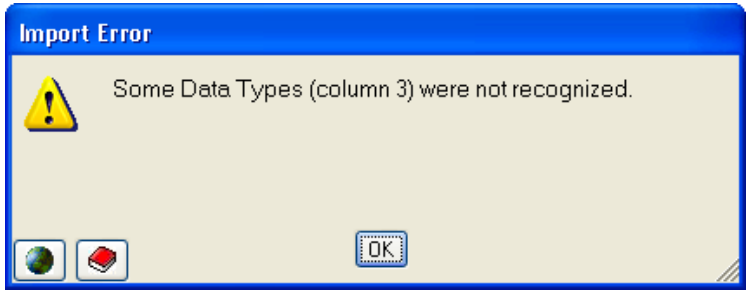
Duplicate Data Rows

Data display prior to attempted Import action showing two identical rows	
Warning Message	
Data display after the attempted Import action. (Note: Duplicates highlighted in red)	

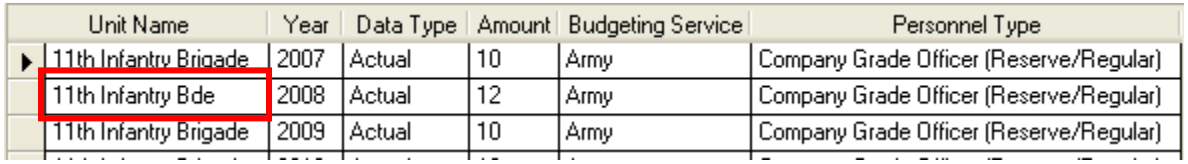
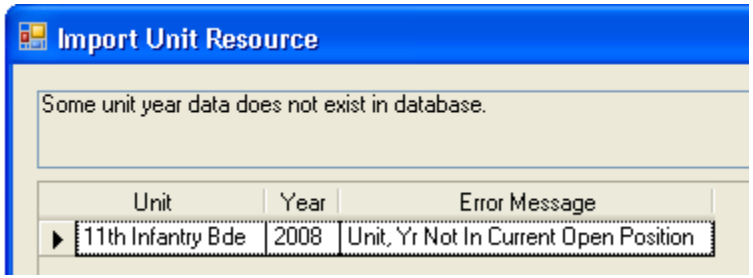
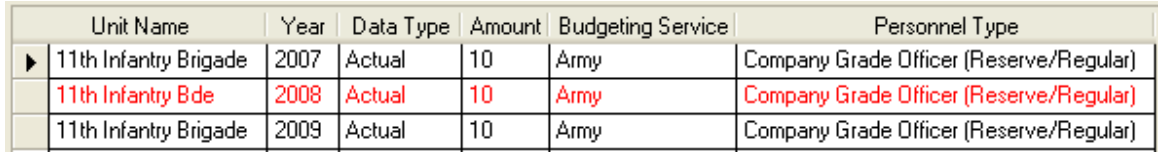
Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
11th Infantry Brigade	2007	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2007	Actual	12	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2009	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2010	Actual	10	Army	Company Grade Officer (Reserve/Regular)

Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
11th Infantry Brigade	2007	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2007	Actual	12	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2009	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2010	Actual	10	Army	Company Grade Officer (Reserve/Regular)

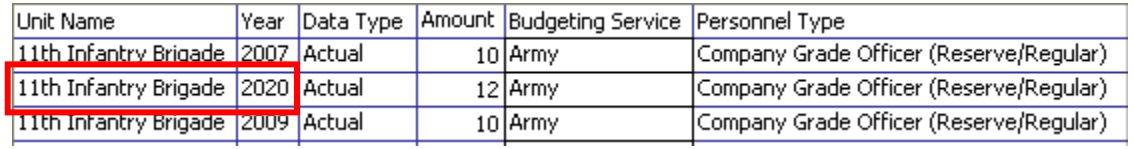
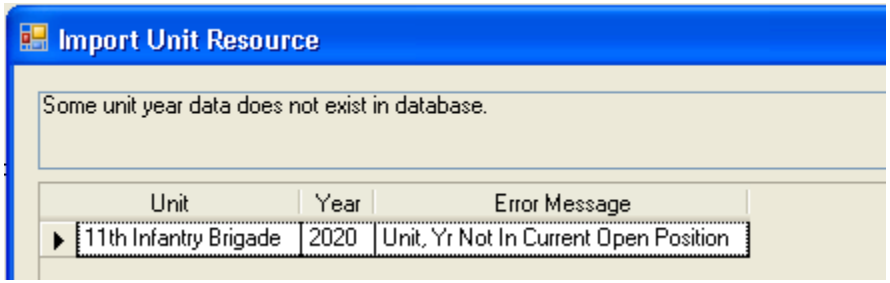
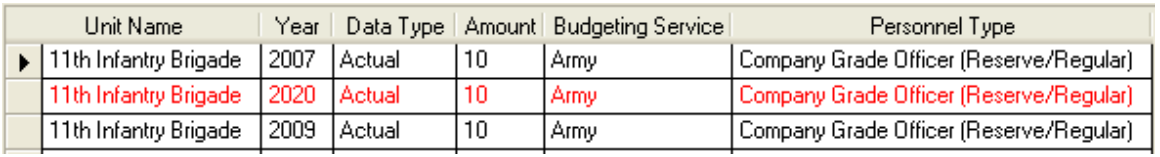
Invalid Data Type

Data display prior to attempted Import action showing an invalid Data Type (i.e., Real)	
Warning Message	
Data display after the attempted Import action. (Note: Row with invalid Data Type highlighted in red)	

Invalid Unit Name or Code

Data display prior to attempted Import action showing an invalid Unit Name	
Warning Message	
Data display after the attempted Import action. (Note: Row with invalid Unit Name highlighted in red)	

Invalid Unit-Year Combination

Data display prior to attempted Import action showing an invalid Unit and Year	
Warning Message	
Data display after the attempted Import action. (Note: Row with invalid Unit and Year highlighted in red)	

Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
11th Infantry Brigade	2007	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2020	Actual	12	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2009	Actual	10	Army	Company Grade Officer (Reserve/Regular)

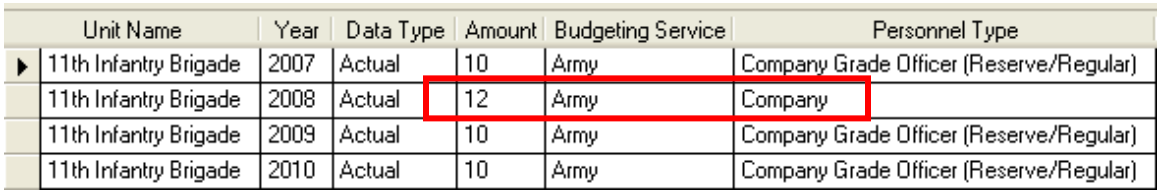
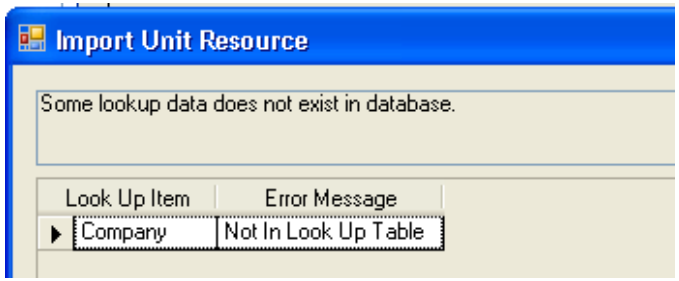
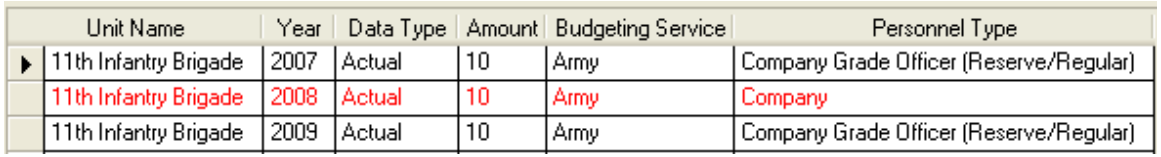
Import Unit Resource

Some unit year data does not exist in database.

Unit	Year	Error Message
11th Infantry Brigade	2020	Unit, Yr Not In Current Open Position

Unit Name	Year	Data Type	Amount	Budgeting Service	Personnel Type
11th Infantry Brigade	2007	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2020	Actual	10	Army	Company Grade Officer (Reserve/Regular)
11th Infantry Brigade	2009	Actual	10	Army	Company Grade Officer (Reserve/Regular)

Invalid Setup Data Characteristic

Data display prior to attempted Import action showing an invalid Personnel Type	
Warning Message	
Data display after the attempted Import action. (Note: Row with invalid Personnel Type highlighted in red)	

Import Cost Data by Type

The FOCIS Import Cost Data function offers two ways to import Cost data from an Excel spreadsheet into a Position database. You can export all Cost data to subject matter experts, obtain revised and updated information, and then import the new values into FOCIS. You can also use it to update only a portion of the Cost data, while leaving all other data unchanged. This capability can be used, for example, to allow experts in Civilian Personnel costs to update one portion of the Personnel Cost data, or to allow those with information on aircraft operating costs to update only the data they are familiar with. In each of these cases, a spreadsheet would be prepared that contains entries for only the data that is to be revised or added. This spreadsheet, with its limited range of Cost data, would then be used as the source for the imported data.

These methods allow you to update, remove, or add to all types of Cost data for any Personnel or Equipment Operations costs. The Currency, Cost Account, Service, Personnel Type, Equipment Item Name, and Metric that appear in the data import file must already exist in the Open Position database. FOCIS will verify all of these conditions and notify you of any problems before making changes to the FOCIS data.

The data import capabilities are accessed from the Utilities Work Area under the **Data Functions/Import** menu.

Import Methods

FOCIS provides two methods to import Cost data: (1) replace only matching Cost Factors and add new data, or (2) replace all Cost Factors for each Cost Factor set included in the worksheet.

Import Method 1. Replace Only Matching Cost Factors and Add New Data

FOCIS updates the Cost Factor amount and Base Year values in the Personnel and Equipment Operations Cost Factors data where there are matching entries in the import data. If there are Cost Factors in the import data that do not appear in the Open Position database, FOCIS adds these Cost Factors in the Open Position. The end result after the Import is complete is as follows:

- For Cost Factors in both the Open Position and the Excel file: Any Cost Factors that exist in both the Open Position database and the Excel file worksheet have their amounts and Base Years updated to match those in the Excel file worksheet.

- For Cost Factors in the Excel file but not in the Open Position: All Cost Factors in the import file worksheet not in the Cost Factors data of the Open Position database are added to the Position database.

- For Cost Factors in the Open Position but not in the Excel file: No changes are made to the Cost Factor data.

Import Method 2. Replace All Cost Factors for Each Cost Factor Set Included

FOCIS removes all Cost Factors from the Open Position database for the data type that appears in the selected worksheet and replaces them with whatever Cost Factors are in the import file worksheet for that data type. The Cost Factors for data types not in the import file data are not affected. This method must be used carefully to avoid deleting unexpected data.

Notes:

- The import process will add Cost Factors for Metrics that are not currently listed in the Setup data as being used for Equipment Operations and will update the Metrics Use Setup data when this occurs.
- The import process will add Cost Factors for Metrics that are not currently listed in the Setup data as being used for an Equipment Item and will update the Equipment Metrics Setup list when this occurs.
- The import process will add Cost Factors for Cost Accounts that are not currently listed in the Setup data as being used for Personnel or Equipment Operations and will update the Cost Account Use Setup data when this occurs.
- Each combination of a Personnel Type, Unit Name, or Equipment Name; a Currency; a Cost Account; a Cost Factor Type; and a Cost Factor Metric is considered one Cost Factor. Therefore, there can be multiple Cost Factors for each Personnel Type, Unit Name, or Equipment Name.

Import by Cost Data Type from an Excel Spreadsheet

The Import Cost Data window for Excel files is shown in Figure 8-70.

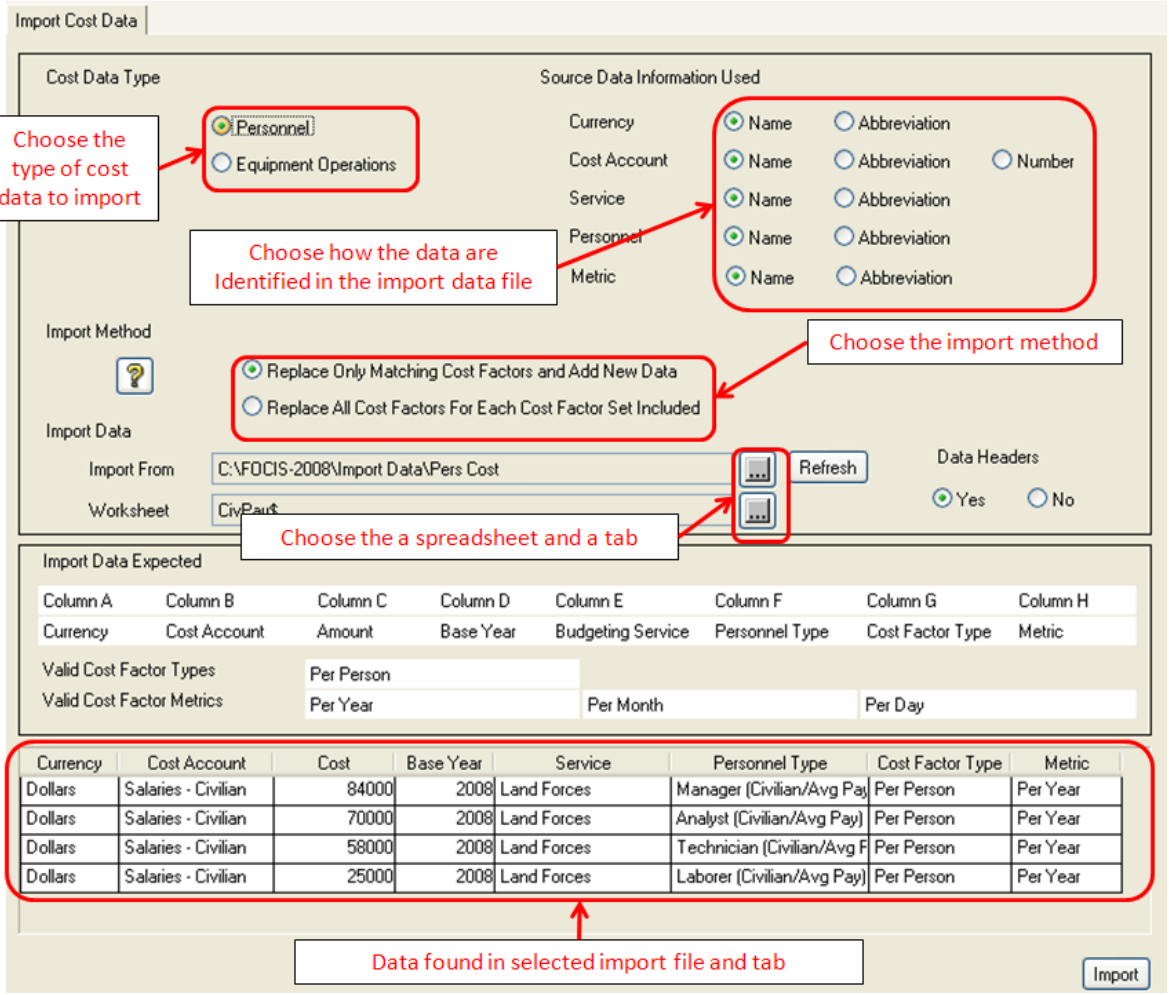


Figure 8-70. Import Cost Data Window for Excel Files

To use this import function:

19. Select the Cost Data Type that matches the data in the file to import.
20. Choose how the data in the columns of the spreadsheet have been prepared (e.g., name or abbreviation) using the option buttons in the Source Data Information Used area in the upper right corner of the window.
21. Choose an import method.
22. Select the data file and worksheet to import and indicate whether the data file contains a header row.
23. Click the **Import** button.

At any time, you can go back and reset the Cost Type or any of the choices of Source Data used (names or abbreviations), even if the initial attempt to import the data caused a warning

message. You can choose a different worksheet or workbook at any time. You can open the workbook in Excel, modify the data, save the workbook data, then re-select the same worksheet (to cause FOCIS to read the file again) and try the Import again.

Select the Cost Data Type. The Cost Data Import function is able to work with only one type of Cost Data at a time. Click the option button for the Cost Data Type you want to import, as shown in Figure 8-71.

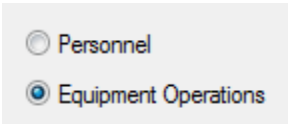


Figure 8-71. Cost Data Type Selections

Select the Data to Import. Use the ... button to the right of the Import From field to select the desired Excel file, as shown in Figure 8-72.

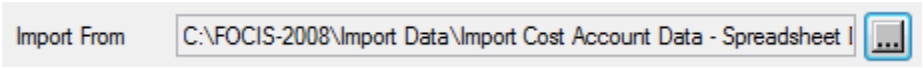


Figure 8-72. Import From Field and Browse Button

When an Excel file has been selected, FOCIS will show a small window similar to the one in Figure 8-73, where all worksheets in the workbook are listed in a drop-down list. The name of a worksheet may include an apostrophe or extra symbols (e.g., $, _, etc.) at the beginning or end of the worksheet name. Different versions of Excel use different symbols and you should ignore these symbols when choosing a worksheet. Excel also sometimes creates totally hidden worksheets when some functions are used to manipulate data. You may see a worksheet name that you do not recognize or want to use. Do not choose a worksheet name you do not recognize.

Select Worksheet Window

Typical Worksheet Selections
(Notice extra symbols in the names)

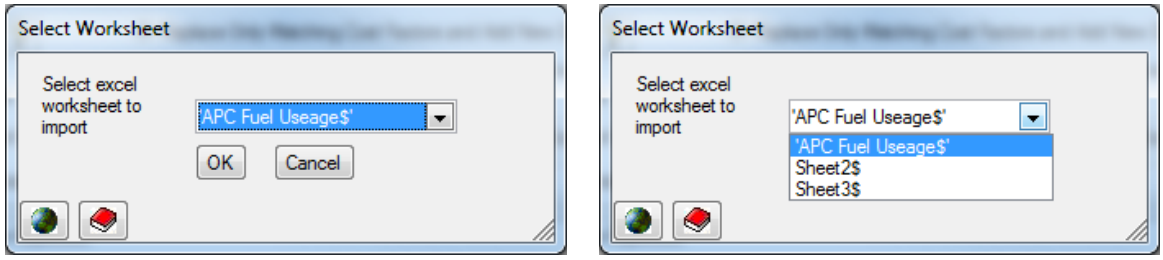


Figure 8-73. Select Worksheet Window

After choosing a worksheet, the Excel filename and worksheet name are shown (Figure 8-74). You can select a different worksheet in the selected workbook at any time by clicking the ... button to the right of the Worksheet field as often as desired.

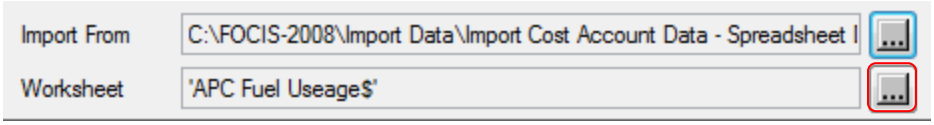


Figure 8-74. Import From and Worksheet Fields with Names Displayed

Sometimes FOCIS may identify a problem with the data in the import file during the Import process and you may need to open the Excel file to fix the problem. After you have corrected the problem, you can save the Excel file and use the **Refresh** button to re-read the selected worksheet.

Data Display. When you have chosen the workbook and worksheet, FOCIS attempts to read the data, and if the format is correct, the data are displayed at the bottom of the Data Import window, as shown in Figure 8-75. These Microsoft Excel worksheet must be in the correct format, or FOCIS will not read it correctly.

Currency	Cost Account	Amount	Base Year	Equipment	Cost Factor Type	Metric
Dollars	2200	5.4	2008	M-113A1	Equipment Use	Kilometers Traveled
Dollars	2200	10.92	2008	BMP-1	Equipment Use	Kilometers Traveled
Dollars	2200	5.4	2008	Bradley	Equipment Use	Kilometers Traveled
Dollars	2200	7.1	2008	BTR-80	Equipment Use	Kilometers Traveled

Figure 8-75. Data Display

Select the Use of Header Information. Some data files use the first row of information to identify what type of data are in each column. When the first row contains this type of information it is important to tell FOCIS how to interpret these entries. If the first row in the spreadsheet contains column headers, set the **Data Headers** option button to **Yes** as shown in Figure 8-76. When you do that, you will see the header information listed as column headers in the data display. Although FOCIS shows the **Data Headers** in Data Display, it is not necessary the headers match exactly to the FOCIS expected layout as shown in Figure 8-77. The **Data Headers** can be named in any way that you choose.

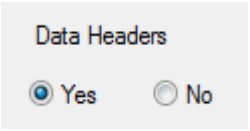


Figure 8-76. Data Headers Selection

Content and Layout of the Worksheet Data

When you have chosen the Cost Data Type, FOCIS shows the layout of the data expected in the import file in the lower half of the window. The example in Figure 8-77 shows the layout for an import file with Equipment Operations cost data.

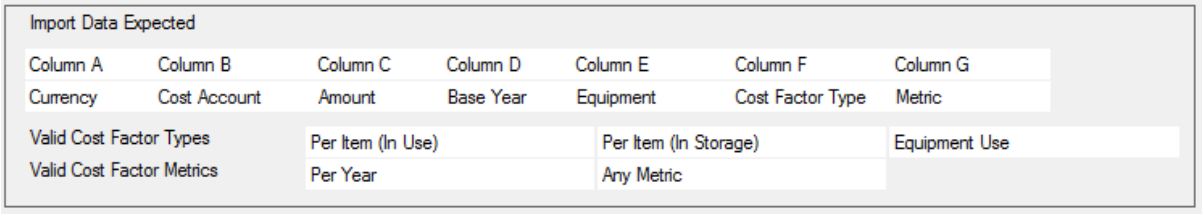


Figure 8-77. Import Data Expected Layout (Equipment Operations Cost Type)

The first two rows show the types of data FOCIS expects to find in each column. FOCIS will always interpret the data in the data file as follows:

- Column A: Currency Name or Abbreviation
- Column B: Cost Account Name, Abbreviation, or Number
- Column C: A numeric amount
- Column D: The Base Year for the amount in the format "**yyyy**"
- Column E: The Equipment Name
- Column F: The Cost Factor Type (The valid Cost Factor Types are shown below the expected data layout.)
- Column G: The Metric Name or Abbreviation

Table 8-5 displays the expected import file data contents by Cost Data Type.

Table 8-5. Expected Import File Data Contents by Cost Data Type

Cost Data Type	Import File Data Column						
	A	B	C	D	E	F	G
Personnel	Currency	Cost Account	Amount	Base Year	Personnel Type	Cost Factor Type	Metric
Equipment Operations					Equipment		

Valid Data Cost Factor and Metrics Entries: Every row in the import file (other than the header row) must contain a valid Cost Factor Type and Metric. The data to be imported may include any or all of the valid Cost Factor Types. FOCIS lists the valid Cost Factor Types and Metrics below the list of column contents. These lists are based on the Cost Data Type chosen. The status of the label icon (or) affects the Cost Data Type labels that FOCIS will accept. If the user has tailored FOCIS Cost Data Type Terms using the FOCIS Dictionary interface, FOCIS will expect to find the terms and translations currently in effect in the data file. For clarity, the valid Cost Data Types are shown in the display. Table 8-6 shows the valid Cost Factor Types and Metrics, by Cost Data Type, from the default FOCIS installation.

Table 8-6. Valid Cost Factor Types by Cost Data Type

Cost Data Type	Valid Data Types			
Personnel	Valid Cost Factor Types	Per Person		
	Valid Cost Factor Metrics	Per Year	Per Month	Per Day
Equipment Operations	Valid Cost Factor Types	Per Item (In Use)	Per Item (In Storage)	Equipment Use
	Valid Cost Factor Metrics	Per Year	Any Metric	

The data file cannot have duplicate entries—that is, the combinations of entries in Columns A, B, D, E, F, and G must be unique within the data file. If duplicates are found, this condition will be reported in a warning message and the import suspended.

Preparing Data Files for Import

See the section titled "Preparing Data Files for Import" on page 8-52 under "Import Unit Resources by Type" for methods to create Excel files. The methods for Cost Data are similar and the information is not repeated here.

Warning Messages

FOCIS provides warning messages when there is a problem importing data from Excel files. See the section titled "Warning Messages" on page 8-58 under "Import Unit Resources by Type" for typical warning messages. The messages concerning problems with importing Cost Data are similar and the information is not repeated here.

Administrator Tools

FOCIS provides some utilities that will be primarily of interest to advanced users and system administrators. These utilities are grouped under Administrator Tools on the Utilities Work Area menu (Figure 8-78).

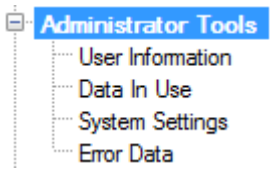


Figure 8-78. Administrator Tools Menu

The **User Information** function allows System Administrators to add new FOCIS users with their own system user name, their own password, and their own permissions.

The **Data in Use** function allows the administrator to see any computers (and the associated FOCIS users) that are connected to the FOCIS database (Figure 8-79).

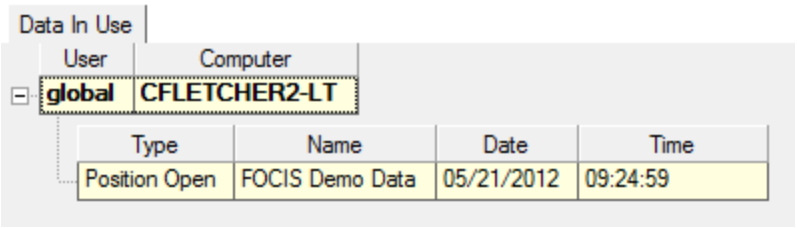


Figure 8-79. Data in Use Display

The **System Settings** function allows users to select Regional Settings that control the number and date formats when the display is set to show alternative labels. The window also controls whether networking is enabled and which database servers can be accessed when logging on to FOCIS.

The **Error Data** function provides access to error messages that FOCIS may generate and can assist the development team in fixing new problems if they arise.

User Information

FOCIS allows users with System Administrator permission to create new users and set their passwords and permissions. Users without System Administrator permission can revise their own password and contact information. All FOCIS systems are initially installed with a single user with the user name “Global” and password “g”. It is highly recommended that, after other users are created on a computer where FOCIS is used by multiple users, the password for the Global user be changed to ensure that all users who log on to FOCIS only have access to functions intended for that user.

To add a new user, right-click within the list of existing users and select the **Add** option from the shortcut menu shown in Figure 8-80. An existing user can be removed from the list of users by selecting the **Delete** option from the shortcut menu.

Figure 8-80. Add and Delete Commands

The User Information window also provides an opportunity to control the level of error reporting visible to the user (**Show Error Level** setting) and the user’s permissions (Figure 8-81).

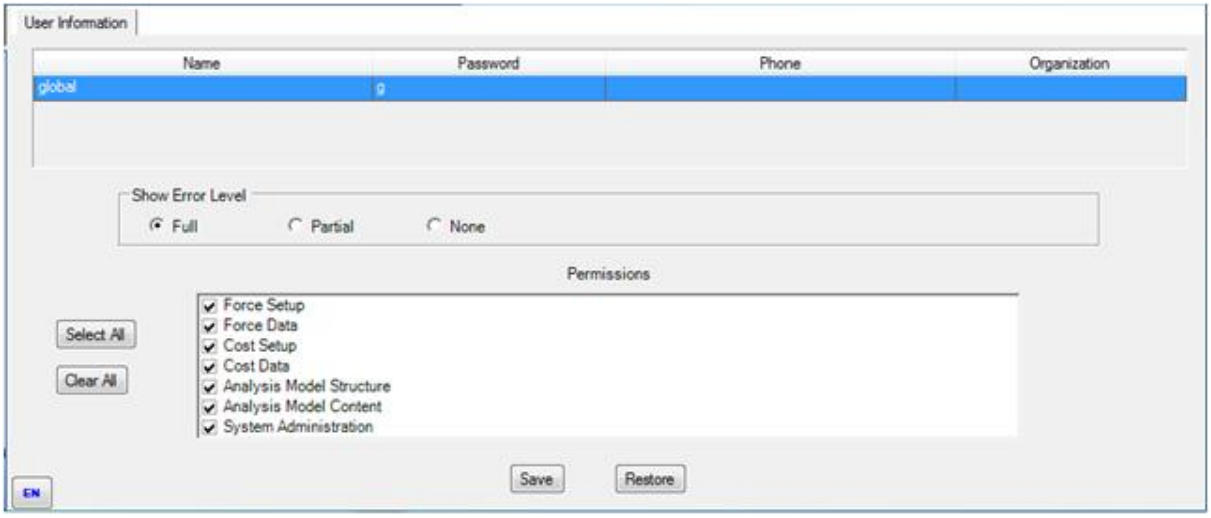


Figure 8-81. User Information Window for Administrators

Permissions are set by selecting or clearing the check boxes next to the type of data for which the selected user will have full read and write permission. The FOCIS permission names and the types of data associated with them are listed in Table 8-7.

Table 8-7. Permissions and Associated Data

Permission Name	Data That Can Be Created or Modified
Force Setup	Services & Agencies; Command Levels, Personnel, Metrics, Equipment, War Reserves
Force Data	Unit Organization, Unit Resources
Cost Setup	Currencies, Cost Accounts, Budget Line Item, Inflation
Cost Data	Personnel Costs, Equipment Operating Costs, Equipment Overhaul Costs, Equipment Overhaul Quantities, Unit Operating Costs, Equipment Procurement Costs, WRM Costs, Budget Line Item Costs, Proportional Costs, Inflation Data
Analysis Model Structure	Analysis Model categories
Analysis Model Content	Content assigned to Analysis Model categories
System Administration	Lock and unlock the Open Position, Data Merge functions, lock and unlock user-created Reports, as well as anything allowed by any other permission.

The **Select All** and **Clear All** buttons can speed up the setting and editing of permissions.

When users who do not have System Administrator permission use the **User Information** function, they will see the window shown in Figure 8-82.

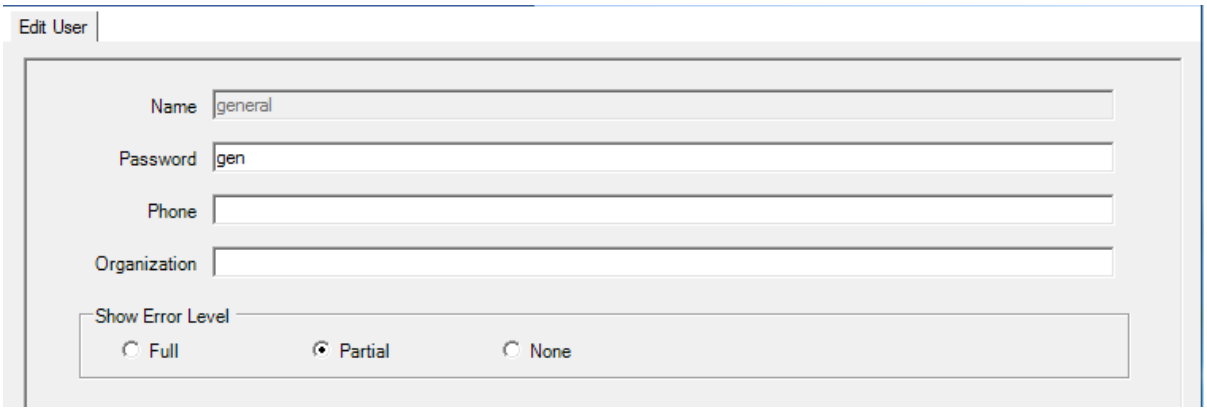


Figure 8-82. Edit User Screen

All users can revise their own password, contact information, and their level of error reporting.

When the desired changes have been made, click the **Save** button. To cancel any changes you have made before you save them, click the **Restore** button.

System Settings

The System Settings window provides access to miscellaneous settings that can be used to tailor FOCIS. The functions within this window allow users to:

- Define the Regional Settings (number and date formatting) used when FOCIS is operating with Alternate Labels and select the font settings for the alternative language
- Enable FOCIS to operate on a network and select database servers that users can access from their local FOCIS computer

Regional and Alternate Language Font Settings

FOCIS allows users to select formatting for the numbers it displays and the date format used to store the change information viewed with the Properties functions. Regional Settings also control the characters used as the thousands and decimal separators. When the System Settings window opens, select the Appearance tab, and then in the Regional Setting field, select the desired Region. The example in Figure 8-83 has Germany set as the Region. This setting automatically separates thousands with periods and decimals with commas.

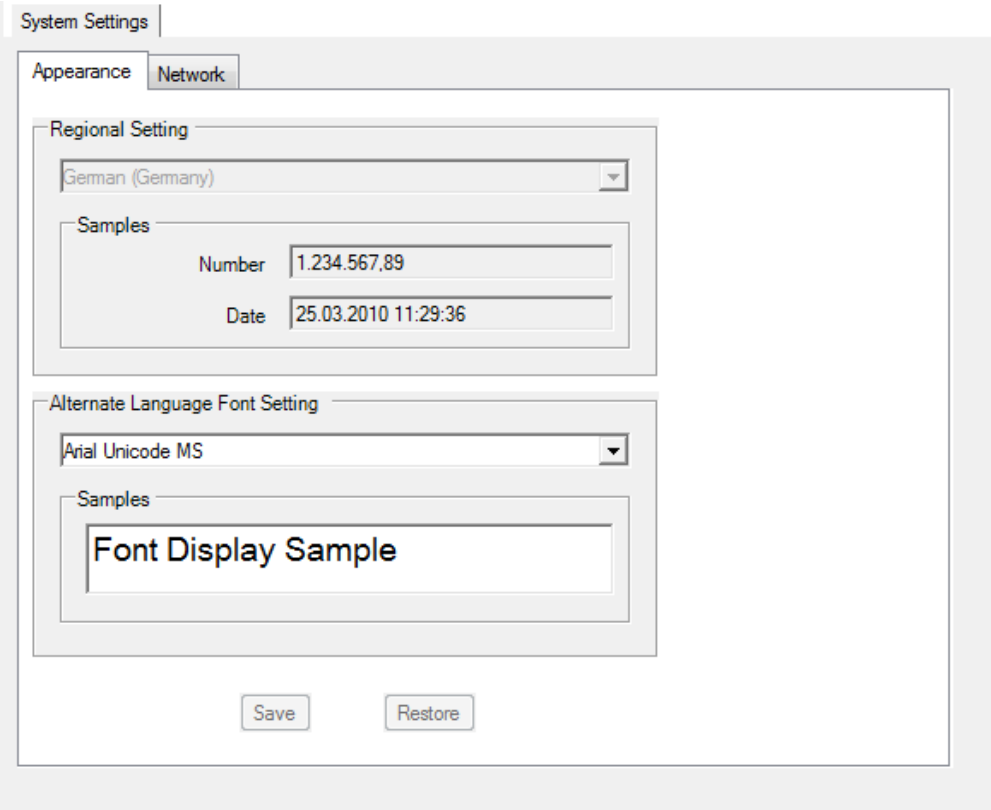


Figure 8-83. Appearance Tab on System Settings Window

The Alternate Language Font Setting field has been set to Arial Unicode. Use the drop-down list to select a different font.

When you have made all desired changes, click the **Save** button. To cancel any changes you have made before you save them, click the **Restore** button.

Network Settings

FOCIS can operate either as a stand-alone application or on a network. The Network tab of the System Settings window controls whether network use is enabled and allows the user to select other FOCIS installations whose databases can be used.

FOCIS is a computer application that uses and modifies data in a database. The application and database software are separate tools. If network operation is enabled, users have the option of selecting either the local server or another computer's database server as the source of the data FOCIS uses. When the server chosen on the Logon screen is the local server, all System and Position data used during that session are the data stored on the user's own computer. When the chosen server is that of another FOCIS computer, all of the data that is used and modified are on the other computer's database (Figure 8-84).

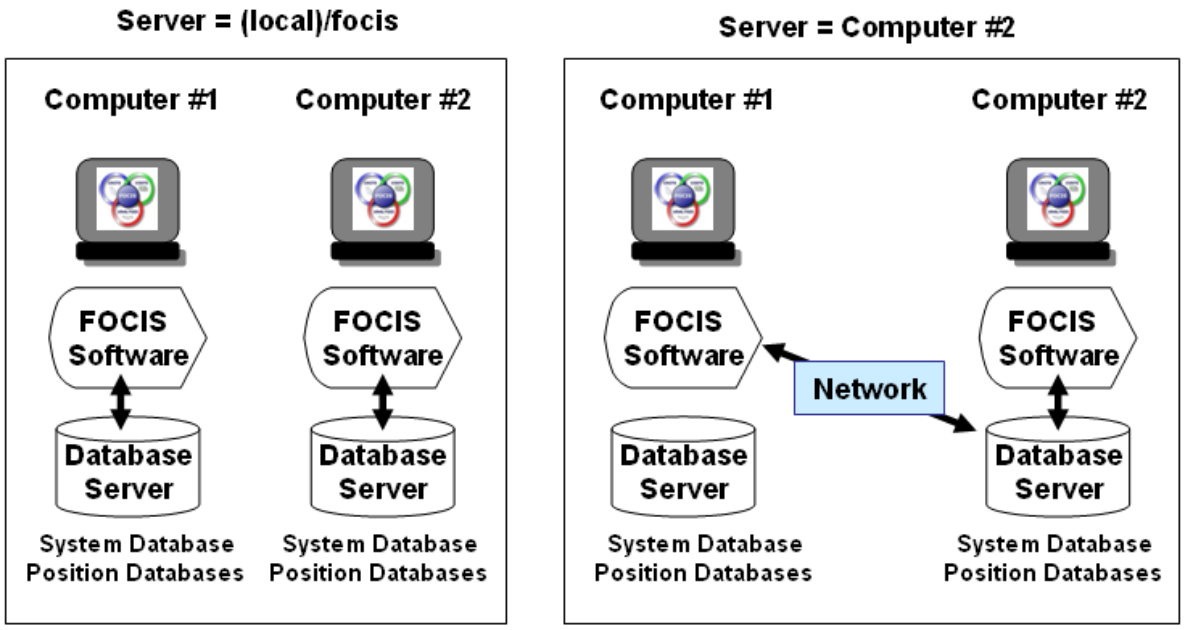


Figure 8-84. Local vs. Network Database Server Locations

When a server other than the local server is used, FOCIS uses the System data on the networked computer's server. This means that the list of users, their passwords, and their permissions are the ones on the selected server and can be different from the ones on the local computer. This allows System Administrators to control which users can access data on their server and which types of data each user can modify, through the permissions set for each user. Because the networked server is the controlling System database, only Reports on the selected server are available and all translations are those on that server.

When multiple users select a common server, they can all work on the same Position database at the same time. Any Positions created remain only on that common computer's server. There are two cases that apply when more than one user tries to access the same data in the same position. The first case is when the access is allowed and the last data saved by any user is the data that remains in the position. The second case is when FOCIS blocks actions by multiple users, when the action to be taken could cause harm to the database. FOCIS tracks which databases are in use by each user and will not allow a user to delete a position while another user is logged on to it. Similarly, FOCIS will not allow users to delete analysis model that are in use.

The best practice is to coordinate work on a database so that no two users are working on the same exact data. This still allows users to work in similar areas. For example, two different users could be working on Air Force unit resources, but either each should work on different units or each should work on data for different types of Resources (e.g., one on Manpower and one on Equipment). Two users could be entering new Equipment items, but one should work with data in Equipment Categories that the other is not changing.

Most FOCIS screens have a **Refresh** button at the bottom that will re-load the data displayed to show the latest changes to the database. It is good practice to use the **Refresh** button frequently if you know others are working in the same database position.

The Network tab on the System Settings window is shown in Figure 8-85, followed by instructions for using it.

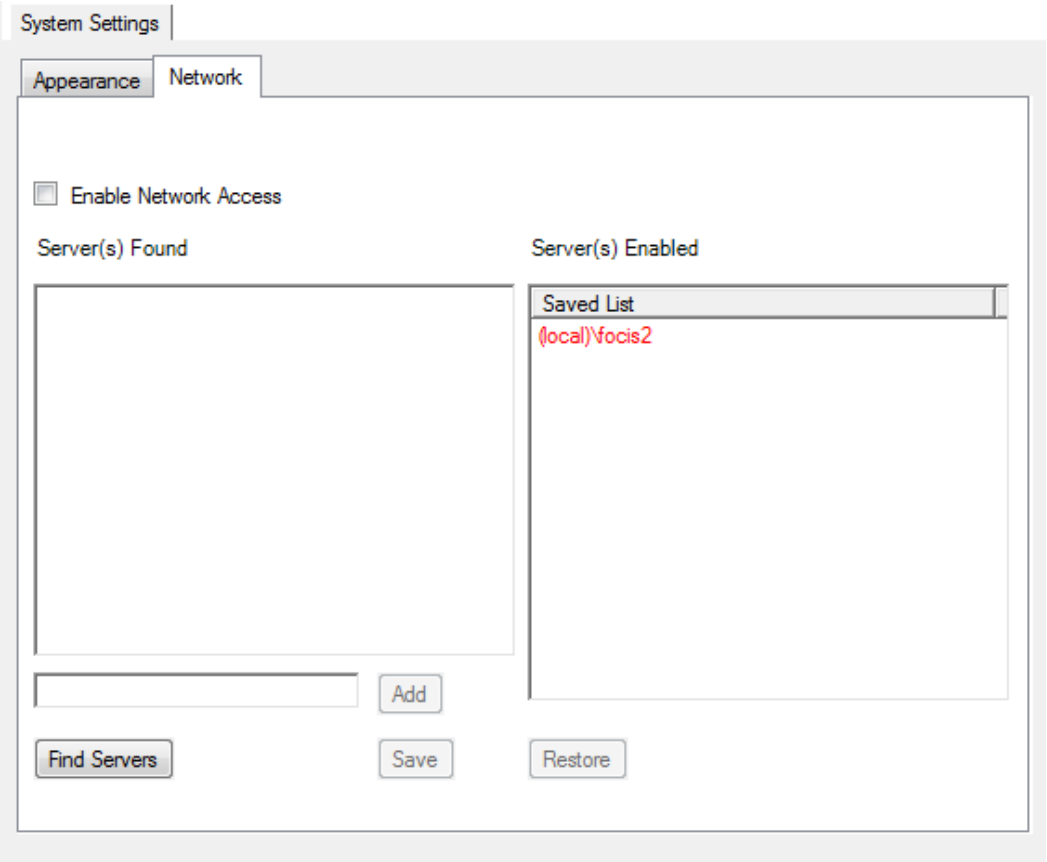


Figure 8-85. Network Tab on System Settings Window

If the Enable Network Access check box is cleared (not selected), users cannot select a server other than their locally installed database server. All data used will be the data on that computer. If the Enable Network Access check box is selected, users can choose to select a server other than their locally installed database server. This choice is made from the FOCIS Logon screen. When network access is enabled, the FOCIS main screen always displays a network icon and the name of the selected server in the FOCIS toolbar. When the local server has been chosen, the display will look like Figure 8-86. When a server other than the local server is selected, the display will show the name of the other server, similar to Figure 8-87.

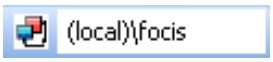


Figure 8-86. Local Server Selected

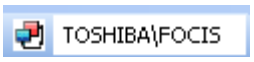


Figure 8-87. Other Server Selected

The Network tab on the System Settings window is also used to identify other network FOCIS database servers. To locate all available servers, click the **Find Servers** button. If the operating system is able to identify other servers on the network, the **Server(s) Found** list is modified to show them, as shown in Figure 8-88. In this example, another FOCIS server was found on a computer named “TOSHIBA”.

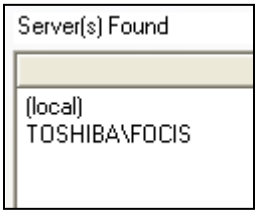


Figure 8-88. Server(s) Found List

If a server appears in the **Server(s) Found** list and you want to add it to the **Server(s) Enabled** list, ensure that it is a FOCIS server by clicking the **Test Connection** command (Figure 8-89). If FOCIS is able to verify that this server is a FOCIS server, the message shown in Figure 8-90 will be displayed. Right-click on its name in the **Server(s) Found** list and click the **Add** command to add the server to the **Server(s) Enabled** list.

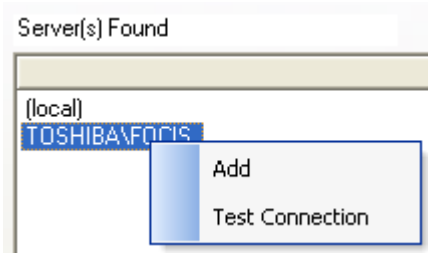


Figure 8-89. Add and Test Connection Functions

When a server is added to the **Server(s) Enabled** list, it appears in the Server selection list on the Logon screen. You can delete an enabled server from this list by right-clicking on it in the **Server(s) Enabled** list and selecting **Delete**.

Figure 8-90. Test Connection Results Message

When you have added and removed servers from the **Server(s) Enabled** list, click the **Save** button to store this information.

From time to time, new features are added to FOCIS, distributed as FOCIS updates. Some updates automatically modify some aspects of Position databases so they can use the latest functions. FOCIS makes these changes every time it opens a database, based on the information in the FOCIS application software. When connected on a network, this means that any database that a user opens is examined by the user’s software to see if the database version matches the version expected. If it does not, FOCIS updates the structure if the Position database version is older, but shows a warning message if it is newer than the user’s application software expects. In rare circumstances, this could cause problems for a user whose version of FOCIS is older than the version of other users in the network. This problem will not occur if all users have installed the same—preferably the latest—FOCIS updates.

Error Data

FOCIS occasionally encounters a situation that it cannot handle correctly, which may cause an error message to appear. Depending on the type of error, FOCIS may be able to capture this error data and save it for later use by the development team. When FOCIS is able to capture error data, it provides access to this information through the Error Data window (Figure 8-91), accessible under **Administrator Tools** on the Utilities Work Area menu.

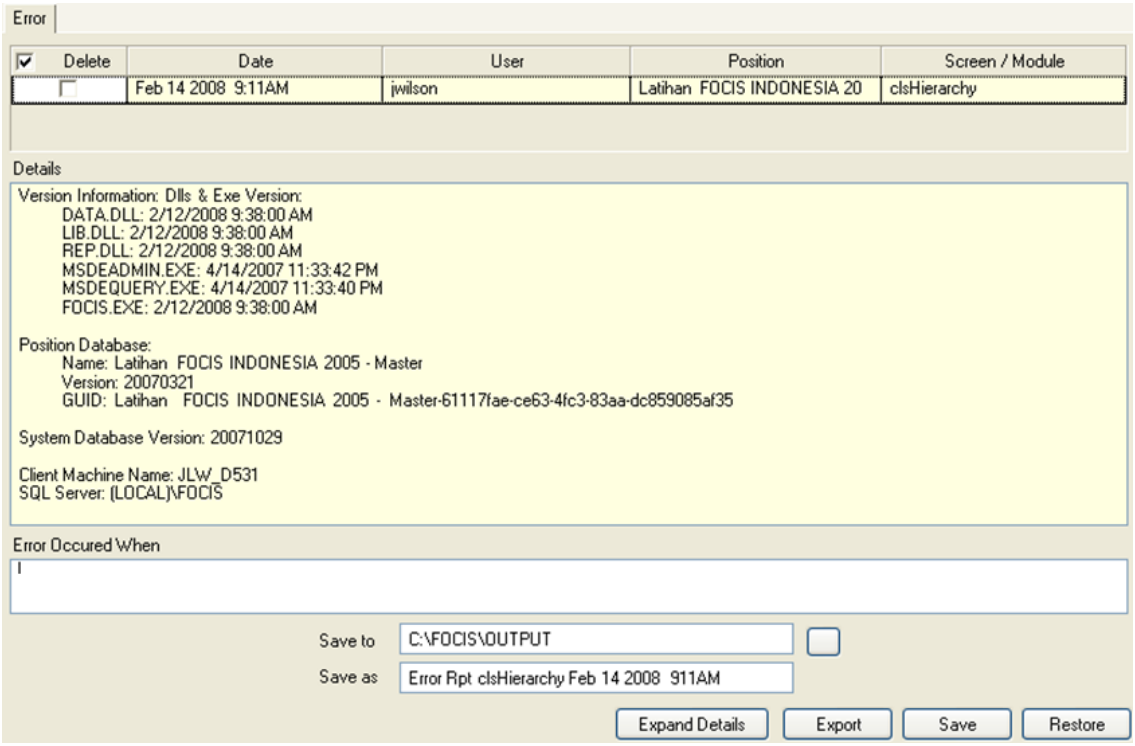


Figure 8-91. Error Data Window

Each error is shown as a row in the list at the top, along with the date, the user, and the Position being used when the error occurred. The far right column (Screen/Module) tells the development team some additional technical details about which part of the application was being used when the error occurred.

The middle section of the window shows the information that FOCIS captured when the error occurred, including the version of FOCIS in use and the error details. The bottom section provides a place where users can record information that describes what they were trying to do when the error occurred. This information is vital to being able to troubleshoot and correct errors. No information from the Position database is included in the data that is recorded.

In general, if the development team cannot reproduce an error situation, it will not be able to correct the problem. If an error occurs that is limiting your ability to use FOCIS, make a set of notes on what you were trying to do (including the name of the window and function you were using). If you can reconstruct the situation that causes the error, use the **Print Screen** button on your keyboard to capture the screen contents immediately before the error occurs.

You can open another application, such as Microsoft Word or PowerPoint, and paste the screen capture into that document. You can also use the standard operating system Copy and Paste functions to copy the error data from the FOCIS Error Data window or export the error data to a .txt document. Save as much of the information as you can and send it to your IDA FOCIS representative.

When using the **Export** function to save the error information to a text file, the Save to and Save as fields (Figure 8-92) allow you to control where the exported file is saved and the name of the file. Once you have set up the Saving fields, click the **Export** button to create a text file with the error data.

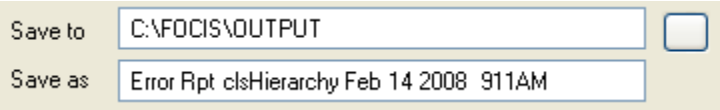


Figure 8-92. Export Function Control Fields

The **Expand Details** button opens a separate window that can be enlarged to show all of the error data at one time. (Note that when the window initially opens, you may not be able to see all of the detailed information. To enlarge the window, position your cursor along the top or bottom edge of the window until you see a double-headed arrow, and then click and drag the edge of the window until all text is visible.) These data cannot be edited but can be copied by highlighting the text to copy and pressing the **Ctrl+C** key combination.

Translations

The **Translations** functions (Figure 8-93) are identical to the Dictionary and Terminology functions that can be accessed by clicking the icon on the FOCIS toolbar. You use the Dictionary tab to translate screen labels and the Terminology tab to translate special FOCIS terms.

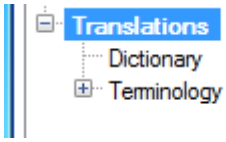


Figure 8-93. Translations Functions Menu

FOCIS screens display one of two sets of labels. The default (Primary) labels are in English and the default Alternate labels are also in English, but are preceded with the "~" symbol. The default Alternative label are editable and can be entered in any language supported by your operating system. You can switch between Primary and Alternative labels using the and icons. When the icon is showing, the labels in use are the Primary labels. Click this icon to switch to Alternate labels. When the icon is showing, the labels in use are the Alternate labels. Click this icon to switch to Primary labels.

Dictionary Tab

On the Utilities Work Area menu, click **Dictionary** under the **Translations** functions to view and edit Alternate labels. You can also perform this function by clicking the icon that is available on the toolbar on every window. Whether you use the Utilities Work Area

Translation function or the toolbar icon, the Translation window (Figure 8-94) will open. Instructions for adding new Language options are in Appendix IV of this Manual.

The entries in the Alternate column of the window can be edited. The text you want to edit can either be found using the scroll bar on the right or by entering a portion of the text from the Primary label in the Display Entries that… field and then clicking the appropriate option (either **Starts with** or **Contains**) and the **Find** button. The **Find** function is not case-sensitive. If you choose the **Starts with** option button, only labels that have the search text at the beginning of the label are shown in the list on the right. If you choose the **Contains** option button, all labels with the search text anywhere in the label are shown in the list on the right. The **Show All** button causes all labels to be displayed. The values shown in Figure 8-94 for the Alternate labels are the defaults.

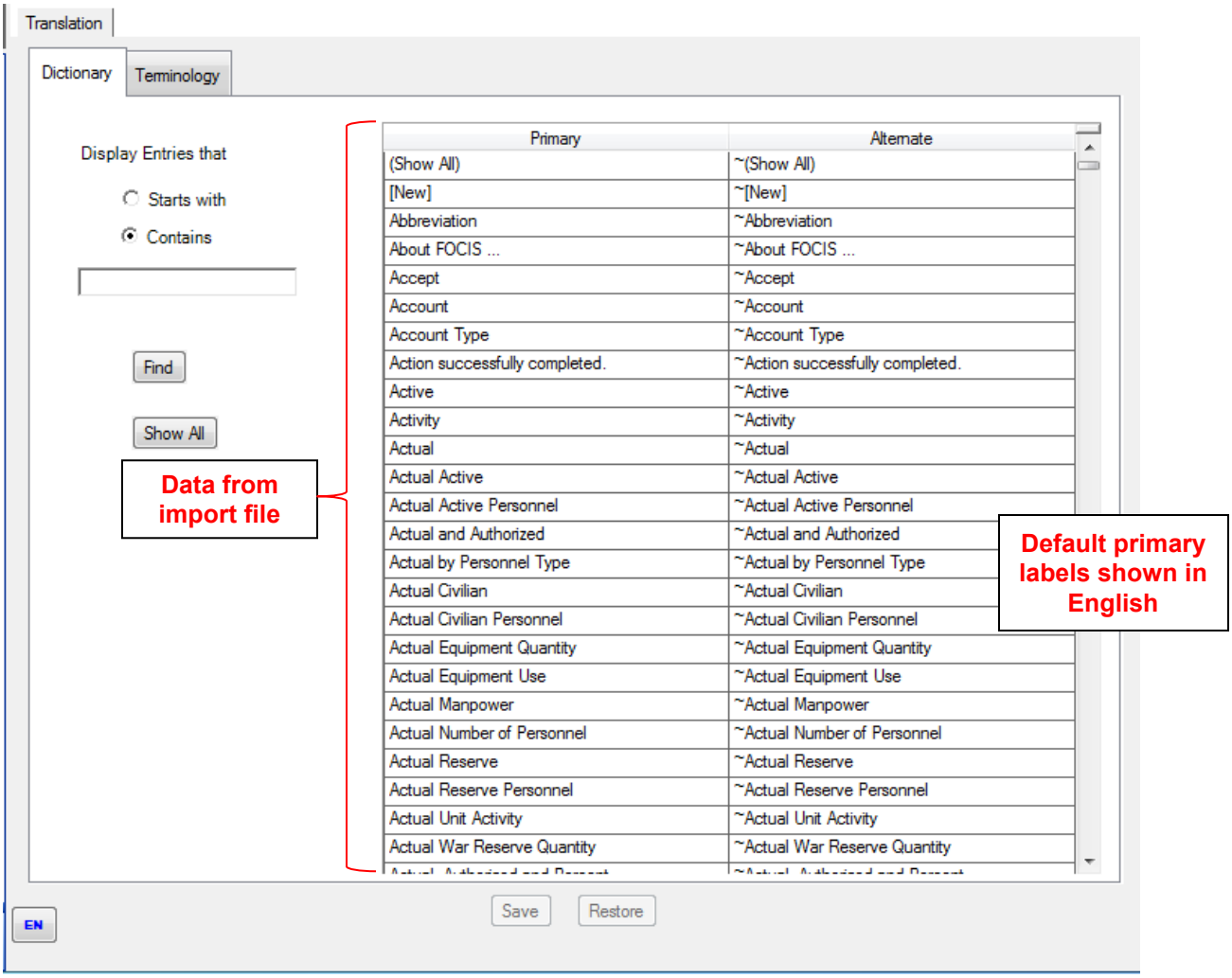


Figure 8-94. Dictionary Tab on the Translation Window

The screen in Figure 8-95 shows the display after the user searched for labels containing the text “File”.

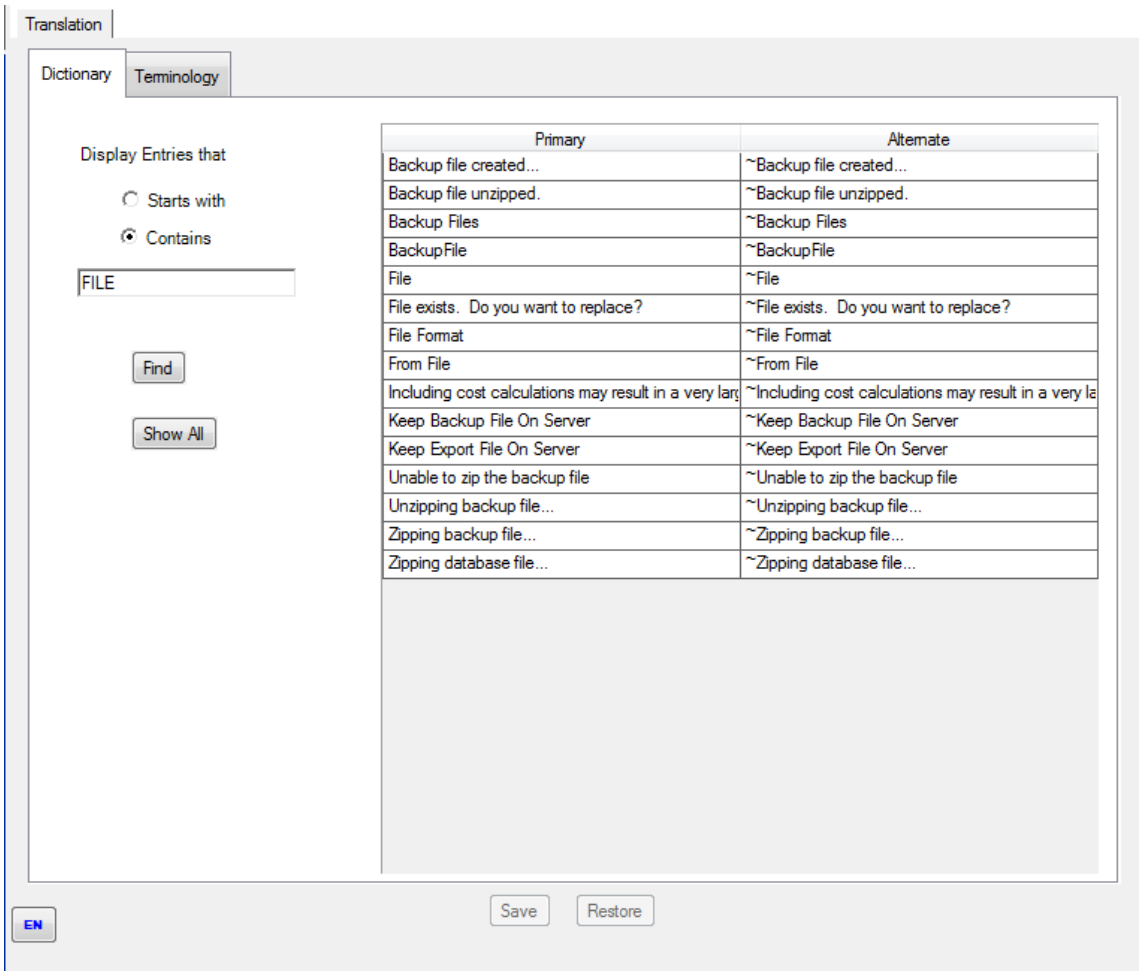


Figure 8-95. Dictionary Tab with Find Results Displayed

Continuing our example, if you have changed the Alternate label associated with the Primary label “File” to the Greek word for “File” in the Greek language (ψιλή) and you have also used the Language selector in the lower left corner of the screen EN to change the Alternate language to Greek (Figure 8-96), the term will show in the Greek alphabet (Figure 8-97).

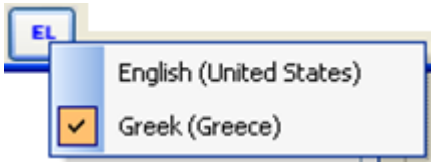


Figure 8-96. Language Selector

Figure 8-97. Alternate Label for “File” in Greek

After editing labels, click the **Save** button. After making the change shown above, the main menu entry for “File” that previously had a default Alternative of “~File” is now “ψιλή”, while the default Alternatives for all other labels remain as the “~” symbol.

When all desired changes have been made, click the **Save** button. To cancel any changes you have made before you save them, click the **Restore** button.

Terminology Tab

FOCIS recognizes that the terminology used to describe many aspects of defense programs and their costs vary from country to country. For example, the number of people who are required to be in a Unit for it to be fully capable of carrying out its mission might be called the "Authorized" quantity in one country and the "TOE" (Table of Organization & Equipment) quantity in another. For these Terms, FOCIS allows users to modify both the Primary and Alternate text.

To change a Term in either its Primary (default) or Alternate form, click the icon next to **Terminology** under the **Translations** function on the Utilities Work Area menu to display the list of Terminology categories. Then click on the category that contains the Term you wish to edit, to display the Terminology tab of the Translation window (Figure 8-98). After you have selected one category to view, you may select different terminology categories using the drop-down menu. Figure 8-98 shows the editable Terms in the "Administrative – Permissions" category. (If the icon on the toolbar is clicked and the Terminology tab is selected, an identical window opens.) Click in the cell for the Term you wish to revise and type the desired text.

If there is a Term you want to revise but cannot find the correct category, you can use the **Find Next** button at the bottom of the window, which works in a similar way to the **Find** button on the Dictionary tab. However, because a Term (e.g., Actual) may appear in more than one category or more than one time within a category, the **Find Next** button looks for the selected text in the first category and then, each time the button is clicked, looks for the next occurrence.

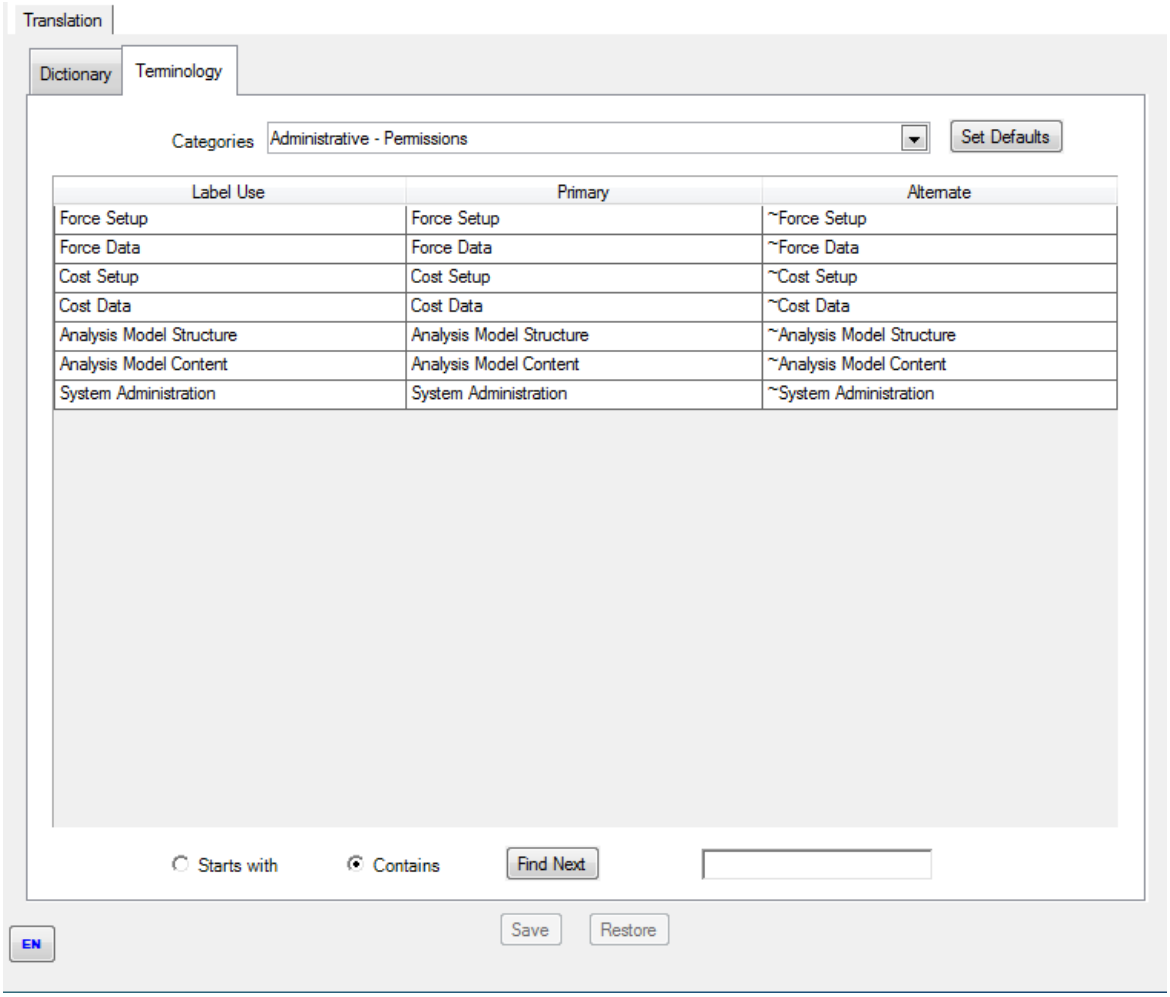


Figure 8-98. Terminology Tab on the Translation Window

Because Terms can appear more than one time, it is possible to try to enter two different Alternate translations for the same Term. FOCIS will not allow you to do this and displays the message seen in Figure 8-99 when it finds the same Term translated two different ways.

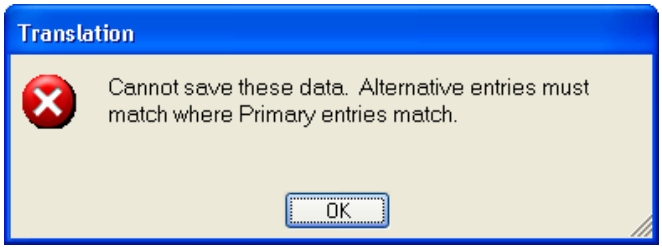


Figure 8-99. Translation Error Message

When this message appears, the changes to the Alternate entries will not be saved. Modify any Terms with different Alternate entries and then click the **Save** button again.

The **Set Defaults** button next to the Categories field will set all Primary labels to their default values. No Alternate label entries are changed.

When all desired changes have been made, click the **Save** button. To cancel any changes you have made before you save them, click the **Restore** button.

FOCIS Terms and their uses are listed by category in Table 8-8. A complete list of the Terms that FOCIS allows users to modify is provided in Appendix V of this Manual.

Table 8-8. Categories of FOCIS Terms

Category	Use
Administrative Data Categories	
Permissions	The types of data each user can modify. The list of Permissions is found in the Administrator Tools/User Information function of the Utilities Work Area for users with System Administrator permission.
Security Classification Labels	The security label options that can be used in an exported Excel file.
Cost Data Categories	
Account Types	A list of the Terms used to describe how a specific cost account is used. These Terms group cost accounts as Account Types in screens where users choose cost accounts.
Budget Line Item Data Types	Terms used to describe whether a Line Item cost entry is an amount that is in the budget or the amount that is desired.
Inflation Rate Types	Terms used to describe which data entries are annual inflation rates and which are compound rates.
Cost Factor Categories	
Equipment Operations - Factor Types	Terms used to indicate the type of data used as the type of cost driver for equipment operations cost calculations.
Equipment Operations - Metrics	The Terms used to indicate a cost factor that represents costs for one year.
Equipment Overhauls - Factor Types	Terms used to describe the three different types of overhauls, with overhaul costs and quantities.
Equipment Overhauls - Metrics	The Term used to describe the basis for overhaul costs cost factors.
Equipment Overhauls - Quantities	The Terms used to indicate the number of overhauls used to calculate overhaul costs included in the budget and the number desired.
Personnel - Factor Types	The Term used to Indicate personnel cost factors that are costs for one person.
Personnel - Metrics	The Terms used to indicate whether a personnel cost factor has been entered as a cost per year, per month, or per day.
Unit Operations - Factor Types	The Terms used to indicate the type of cost driver used with a unit operations cost factor.
Unit Operations - Metrics	The Terms used to indicate the specific cost driver used with a unit operations cost factor.
Report Data Categories	
Cost Calculation Methods	The Terms used in cost reports that use the data field “Calculation Method.”
Setup Data Categories	
Metric Usage Types	The Terms used to indicate the intended use of metrics in the Setup data.
Personnel Calculation Type	The Terms used to indicate whether the calculation of personnel costs is based on (1) the quantity entered year by year or (2) the average of the quantities in each year and the prior year.

Category	Use
Unit Data Categories	
Data Types	Terms used to Indicate a type of unit resource data (e.g., Actual, Authorized).
Personnel Classes	Terms used to label the major classifications of Personnel Types.
Resource Categories	Terms used to label the types of unit resource data (e.g., Manning, Equipment, Equipment Use).

Appendix I.
FOCIS Glossary

Introduction

This appendix, the FOCIS Glossary, contains many terms that are used with FOCIS. The glossary defines each term in a separate short section in alphabetical order. If you are using the PDF form of the glossary, you can easily move back and forth between FOCIS terms by turning on the PDF Bookmark Navigation feature. This feature is turned on and off by clicking on the icon in the left margin. A sample of the navigation pane is shown in Figure I-1. If you are using the Word version of the glossary, a similar functionality can be obtained by turning on the Word Document Map (Word 2007) or Navigation Pane (Word 2010).

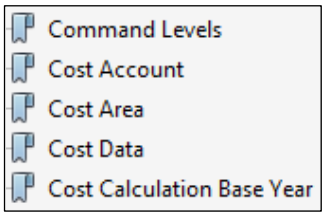


Figure I-1. PDF Bookmark Navigation

Actual (Unit Resource Data)

Unit Resource data are entered year-by-year with two quantities. One entry is for Authorized or Desired quantities and the other is for Actual amounts. The quantity entered as the Actual value reflects the amount of Manpower, Equipment, etc., that was (if a past year) or will be (if a future year) funded in the budget. The amount entered as Authorized or Desired can be thought of as the "Standard" – or the amount a Unit should have in order to be fully effective to carry out all of its missions.

Unit Resources are described in detail in Chapter 5, Unit Resource Data.

Notes:

- When FOCIS uses a Unit Resource quantity as a Cost Driver in a cost calculation, it uses the Actual amount.
- When FOCIS reports include a Percent Fill value, depicted as

, the percentage is calculated as the Actual quantity divided by the Authorized (or Desired) quantity.
- The terms Actual, Authorized, and Desired may be changed by selecting the "Unit Data – Data Types" category on the Terminology tab of the Translation window.

Alternate (Labels)

FOCIS provides users with the option of seeing windows, menus, button captions, and messages in English or another language. The English labels are referred to as the Primary Labels and the user-translated labels are called the Alternate labels. See Primary Labels for a complete description of using Primary and Alternate labels.

Alternate labels can be entered or revised using the Translation window, which can be accessed from any FOCIS window by clicking the icon. The detailed instructions for using and editing FOCIS Primary and Alternate labels are provided in Chapter 8, Utilities.

Notes: Initially the default Alternate labels are set to match the Primary labels with the symbol "~" placed in front of each label. If, after you have turned Alternate labels to the "on" condition, you see a label with the "~" as the first character, it is a label that has not yet been translated.

Analysis Model

Analysis Models are multi-level, user-created arrangements of categories and subcategories that provide a means for gathering FOCIS data into meaningful groups. Analysis Models are also known in FOCIS as "Models." The collection of categories for any one Model is called the Model Structure. Models can have multiple levels of categories, but content can only be assigned to the lowest level category in each branch. The data items (e.g., Units, Equipment, Cost Accounts) that are assigned to each category are called the Content of a category.

For example, a Model can be created to represent Mission Areas (the top level categories) and sub-areas (the sub-categories). Units that support each sub-area are assigned to the mission sub-category they support. Once the Model Structure of categories and sub-categories is completed and all Units are assigned at the proper level, reports on Manning, Equipment, Cost, etc. can be designed so that the use of Resources can be seen by Mission Area and sub-area. Another Model for Geographic Locations could be created with its own assignments of Units by Region, Base, etc. Reports can then be designed to use either of these Models separately or both can be used in a single report that shows both Missions and Location.

Models are first created using the Analysis Models window in the Setup Data Work Area, where the types of content that appear in a Model are identified. Analysis Model Structures are created and modified and items are assigned to categories in the Analysis Models Work Area.

The creation and modification of Analysis Models is described in Chapter 6 of this manual.

Analysis Model Content

FOCIS allows users to establish the types of data that can be used to define the content of categories from among these types: Units, Personnel Types, Equipment, Cost Accounts, Equipment Procurement Costs by Equipment Item, War Reserve Procurement Costs by War Reserve Item, or Budget Line Item Costs by Budget Line Item. The type of content allowed within each Model is established through the Analysis Models window in the Setup Data Work Area.

The example “Mission Areas” Model has its content defined in terms of Units. The content of the Fire Support category is shown in Figure I-2.

Users assign Model content, such as individual Units, to any of the lowest categories in each branch of the structure.

The creation and modification of Analysis Models is described in Chapter 6, Analysis Models.

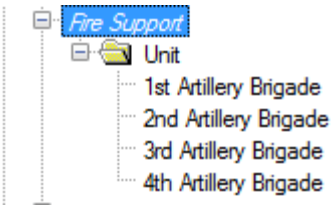


Figure I-2. Example of Portion of Model

Analysis Model Structure

The collection of categories and subcategories that define the organization of an Analysis Model establish its structure. Users create categories to fit the purposes of the Model.

The example “Mission Areas” Model shown in Figure I-3 has three top level categories: Combat, Combat Support, and Central Support. Each of these has subcategories.

Users assign content, such as individual Units, to any of the lowest level categories or subcategories in the structure.

The creation and modification of Analysis Models is described in Chapter 6, Analysis Models.

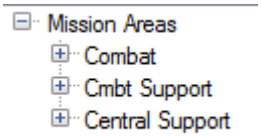


Figure I-3. Example of Model Structure

Authorized (Unit Resource Data)

When Unit Resource data are entered, annual quantities are entered for Authorized (or Desired) and Actual amounts. Both terms, “Authorized” and “Desired,” reflect a Target amount that the Unit should have in order to be considered fully effective and ready.

In the default installation of FOCIS, the term “Authorized” is used with Manpower and Equipment because these resources are often controlled by official documents to establish target levels a Unit needs in order to be fully capable of performing its mission. The term “Desired” is used with Equipment Use, Unit Activity, and War Reserves.

Notes:

- When FOCIS reports include a Percent Fill value, the percentage is calculated as the Actual quantity divided by the Authorized or Desired quantity.
- The terms “Actual,” “Authorized,” and “Desired” may be changed by selecting the “Unit Data – Data Types” category on the Terminology tab of the Translation window.

Budgeting Service

In FOCIS, Unit Manning is defined in terms of Personnel Types and Budgeting Services. The Budgeting Service is always identified separately from the Service or Agency of the Unit so that when Personnel from one Service are assigned to a Unit of a different Service, it is possible to indicate which Service's budget will pay for those Personnel. The list of Services and Agencies used to indicate the Budgeting Service is identical to that used to indicate the Service of a Unit.

Budget Line Item

FOCIS uses the term Budget Line Item to refer to any project or budget expense that cannot be easily or logically based on Unit Resources (Manpower, Equipment, Unit Activity, or War Reserves). Some Budget Line Items describe projects like the construction of a new facility or a research program. Other Line Items may describe general expenses or even revenues. See Chapter 5, Cost Data, for more information.

Command Levels

Command Levels identify the general organization level of a Unit. Typical Command Levels used in FOCIS include Ministry, Service, Division, Brigade, and Battalion. Users create or rename Command Levels to match their own local terminology.

Every Unit has a Command Level and each Unit's Parent Unit must have a Command Level that is higher than its own. Command Levels allow FOCIS to summarize data in reports. For example, if one Command Level used is Division, reports can be created that summarize Manpower, Equipment, and Costs at the Division level.

A complete discussion of Command Levels and how they can be created or modified is found in Chapter 2, Setup Data.

Cost Account

Cost Accounts represent specific types of expenses. Some budget analysts refer to these as "Object Classes." Separate Cost Accounts typically exist for such expense categories as salaries, uniforms, fuel, spare parts, ammunition, water, electricity, and building construction.

Cost Accounts are created in the Setup Work Area. Each Cost Account is normally associated with a country's budget accounts but all Cost Accounts are not necessarily at the same budget level. Each Cost Account will have an account number that usually directly corresponds to a budget account number.

Cost Accounts are created in the Setup Work Area and are described in more detail in the section on Cost Accounts in Chapter 2, Setup Data.

Cost Area

FOCIS uses Cost Areas to group expenditures that are based on the same "cost drivers." There are seven fixed areas in FOCIS:

- Personnel
- Unit Operations
- Equipment Operations
- Equipment Overhauls
- Equipment Procurement
- Budget Line Items
- War Reserve Material

Cost Data

One of the primary uses of FOCIS is estimating the budget requirements associated with a program plan (i.e., a Position database). FOCIS estimates costs in several ways, depending on how users choose to represent them. Cost data fall into the following categories:

- Cost Factors: These are costs that FOCIS uses with Cost Drivers to produce estimates of budget requirements. Cost factors are always a cost per unit of some Cost Driver. FOCIS has cost factors for Personnel, Equipment Operations, Equipment Procurement, War Reserve Item Procurement, Unit Operations, and Overhauls.
- Direct Cost Values: These costs are annual amounts for specific activities and can be added so that each activity is treated as a Budget Line Item.
- Derived Costs: Costs can be represented as a percentage of another calculated cost. FOCIS calls these types of costs, Proportional Costs. For example, national insurance expenses for all Personnel can be represented as costs that are a percentage of pay, thereby avoiding the need to create separate factors for all Personnel Types.
- Inflation data: Inflation rates can be entered for historical years and estimated for future years. Unique rates can be used for each cost account and for each currency.

Every cost in FOCIS is entered with a specific reference to a Currency and a Cost Account.

Cost Data and their windows are described in Chapter 5, Cost Data.

Cost Calculation Base Year

The cost calculation Base Year is a user-selected value that establishes a common price level for the FOCIS Cost calculations. The Base Year is set in the Cost Calculation window before the calculation is started. As part of the preparation for doing a Cost calculation, all Cost values are changed to the selected Base Year using the inflation factors. When the Cost calculation is complete, the results are stored in terms of the selected Cost Base Year. FOCIS Cost Reports can either be displayed in terms of the calculation Base Year or shown with inflation factors applied to represent every Cost in terms of each year's price levels.

Cost Drivers and Cost Factors

FOCIS cost estimates are made by multiplying the total amount of a resource or activity by the cost of each resource or unit of activity. For example,

(Number of Officers)	multiplied by	**(Salary per Officer)**	=	Salary for all Officers
COST DRIVER	x	COST FACTOR	=	COST

In a calculation like this, the resource or activity is called the "Cost Driver" while the cost per increment of the Cost Driver is called the "Cost Factor."

Currency

All Cost data are associated with one of the Currencies created in the Setup Data. FOCIS Currencies identify the *source of funding* of each Cost. For example, a FOCIS database may have two Currencies, one to identify Costs that are paid for with the Regular Annual Budget and a second Currency that identifies Costs that are paid for with a separate Modernization Budget.

When users create a FOCIS Currency, they may also identify the scaling that is used with Cost data. For example, using "USD (000s)" as a Currency reminds users that all Cost data are entered and shown in thousands of US Dollars.

Desired (Unit Resource Data)

The term "Desired" is used to identify one of the types of data used with Equipment Use, Unit Activity, and War Reserve Material. The term "Desired" is used with essentially the same meaning that "Authorized" is used with Manpower and Equipment quantities. See Authorized (Unit Resources Data) for a full description of this term.

Equipment

See Unit Equipment.

Equipment Operating Cost Factors

Users create Cost Factors in FOCIS that represent the Operating and Support costs of Equipment Items. Each Cost Factor is created using a Currency and Cost Account. Each Cost Factor is associated with a Cost Driver based on the Cost Factor Type chosen for that Cost Factor. FOCIS has three Equipment Operating Cost Factor Types:

Cost Factor Type	Cost Driver	Used With
Per Item (In Use)	Equipment Actual Quantity minus Storage Quantity	
Equipment Use	Equipment Use Actual Quantity	a Metric
Per Item (In Storage)	Equipment Storage Quantity	

More information on creating and modifying equipment operating cost factors is in Chapter 5, Cost Data.

Equipment Use

Equipment Use is one of the five types of Unit Resource data. Equipment Use data are entered in terms of Metrics, such as kilometers, flying hours, or steaming days, and are established by the entries made in the Equipment Setup window. Equipment Use data are entered as annual quantities for both Desired and Actual quantities for each Metric. The Actual quantity can be used as a Cost Driver with an Equipment Operations Cost Factor.

Typically, these Equipment Use quantities are established in an official training document. The quantity of Equipment Use shown as the Actual amount should reflect the amount of use that is intended to be included in the budget (i.e., funded) in that Unit. The convention in FOCIS is to record the Authorized and Actual Equipment Use quantities for the *total use of all equipment* of each type in the Unit during the full year. For example, the value for F-16 flying hours would represent the total flight hours for all F-16 aircraft in a Unit, not the value for each individual aircraft.

More complete information on Equipment Use and how to enter it in FOCIS is found in Chapter 4, Unit Resource Data.

Explorer Bar

The Explorer Bar is located in the left pane of the FOCIS window. This area is used to display the Unit Organization Structure in the Unit Data Work Area; the structure of the selected Analysis Model in the Analysis Models Work Area; the available Reports in the Reports Work Area; and a list of all functions available in the other Setup, Cost, and Utilities Work Areas.

Line Item

See Budget Line Item.

Locked

Positions can be Locked or Unlocked. The status of this setting controls whether the data in the open Position can be modified. When a Position is locked, users can only view data. When a Position is unlocked, users with appropriate Permission can create and modify data. A Position is locked if the icon shows in the FOCIS Toolbar and is unlocked if the icon shows. Positions can be locked and unlocked only by users with System Administrator Permission. Users can change back and forth between the Locked and Unlocked statuses by clicking the icon. Reports and all export functions are fully functional in both the Locked and Unlocked conditions.

Manpower

See Unit Manpower.

Merge Position Data

The FOCIS Merge Position Data function allows users to combine data from a Position that is not open with the currently open Position, with a great amount of control over the types of data taken from one Position to put into another. This function allows users who are not connected via a network to work separately and later combine their work.

Metrics

Metrics are units of measure that give meaning to many of the numeric values entered in FOCIS. Metrics are used to describe Equipment Use (e.g., kilometers, flying hours, Days at Sea); Unit Activities (e.g., training exercises, firing exercises); and War Reserve Materials inventories (e.g., gallons, tons, 1,000s).

More information on creating and modifying Metrics is found in Chapter 2, Setup Data.

Parent Unit

For any Unit, the Parent Unit is the next highest organization in the Unit Organization Structure (Figure I-4). The Parent Unit can be seen in the Organization Structure display in the Unit Data Work Area and is listed in the window opened by the Unit Edit function. Units may have a different Parent Unit year by year. In the organization structure shown in Figure I-4, the Ministry of Defense is the Parent Unit of the General Staff Unit. The General Staff is the Parent Unit of the Land Forces Command HQ Unit.

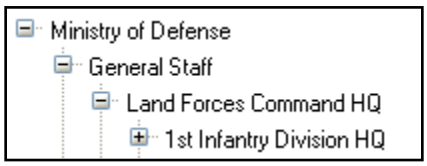


Figure I-4. Sample Unit Organization Structure

The ways that Units are created and how the Parent Unit relationship is established are described in Chapter 3, Unit Organization Structure Data.

Pay Level

Pay Level is one of three subcategories used to define a Personnel Type. (See Personnel Types for a fuller explanation of how Pay Levels are used.) Pay levels allow users to create Personnel Types so that the Costs budgeted for Pilot, Commando, sailors assigned to sea duty, etc. can have pay that differs from other Personnel. Users create a list of Pay Levels such as Average, Pilot, Commando, and Sea Pay in the Personnel function of the Setup Data Work Area.

Information on creating and editing Pay Levels is in the Personnel Types section of Chapter 2, Setup Data.

Permissions

Every user is given access to view any data in a Position database, but the data that they can create or modify is limited based on Permissions that are assigned to that user. FOCIS permissions are listed below:

Permission Name	Data That Can Be Created or Modified
Force Setup	Services & Agencies, Command Levels, Personnel, Metrics, Equipment, War Reserves
Cost Setup	Currencies, Cost Accounts, Budget Line Items
Force Data	Unit Structure, Unit Resources
Cost Data	Personnel Costs, Equipment Operating Costs, Equipment Overhaul Quantities and Costs, Unit Operating Costs, Equipment Procurement Costs, War Reserve Costs, Budget Line Item Costs, Proportional Costs, Inflation Data
Analysis Model Structure	Analysis Model Categories, Analysis Model Setup
Analysis Model Content	Analysis Model Category Contents
System Administrator	All of the above and Locking and Unlocking Position Databases, Data Merge, Lock and Unlock User-Created Reports, Restore System Databases

Personnel Category

Personnel Category is one of three elements of a Personnel Type. Users create a list of Personnel Categories such as General, Senior Officer, NCO, Manager etc. in the Personnel function of the Setup Data Work Area.

Information on creating and editing Personnel Categories is in the Personnel Types section of Chapter 2, Setup Data.

Personnel Class

Personnel Class is one of three elements used to define a Personnel Type. (See Personnel Types for a fuller explanation of how Personnel Classes are used.) FOCIS has four Personnel Classes: Active, Reserve, Civilian, and Other.

The costs calculated for Personnel Types with a Personnel Class of Active, Civilian, or Other are based on the Actual Manpower quantity. Personnel Types with a Personnel Class of Reserve are based on the Actual Manpower quantity and the number of annual Training Days.

Information on creating and editing Personnel Classes is in the Personnel Types section of Chapter 2, Setup Data.

Personnel Type

Unit Manpower data and Personnel Cost Factors are described in terms of a Budgeting Service and a Personnel Type. For example, Unit Manpower entries and Personnel Costs are entered separately for Navy "Active Junior Officer – Regular Pay" and Navy "Active Junior Officer – Pilot Pay."

Personnel Types are created by combining one choice from each of three lists: Personnel Class, Personnel Category, and Pay Level.Pay_Level Personnel Classes are fixed in FOCIS but the Personnel Category and Pay Level lists are both created by users.

	Fixed in FOCIS	**User-created Lists**	
	Personnel Class	Personnel Category	Pay Level
Examples:	Active Reserve Civilian Other	Senior Officer NCO Soldier Manager	Regular Pilot At Sea Commando
	Personnel Types		
Examples:	Active Senior Officer - Regular Pay Active Senior Officer - Sea Pay Active NCO - Commando Pay Reserve Soldier - Regular Pay Civilian Manager - Regular Pay		

By creating Personnel Types based on these three elements, reports and analyses can be grouped and summarized by Class, Category, or Pay Level.

More information on creating and editing Personnel Types is found in Chapter 2, Setup Data. Entering Manpower data using Personnel Types is described in Chapter 4, Unit Resource Data. Cost data related to Personnel Types is in the Personnel Cost Data section of Chapter 5, Cost Data. Reports with Unit Manpower and Personnel Costs are described in Chapter 7, Reports.

Position (Database)

A Position database includes all of the Setup information, Unit Organization Structure, Unit Resources, Cost relationships, and other Cost data needed to represent a program plan. Position databases may include any number of years. Users can create as many Positions as desired to formulate and evaluate alternative program plans.

Primary (Labels)

FOCIS allows users to display the text labels that appear on windows, in menus, and in messages in English or in a second language. The choice of which set of labels is shown is controlled by an icon (or depending on the current choice) on the FOCIS Toolbar. When the icon shows as , the Primary (English) labels are being displayed. Clicking the

icon changes it to and displays the Alternate labels. Clicking returns to displaying the Primary labels.

Alternate Label translations are entered using the Dictionary tab on the Translation window, which is opened by clicking the icon on the FOCIS Toolbar. When FOCIS is first installed, all Alternate labels are set to "~" plus the Primary (English) label. When you see a label with a "~" at the start, it is a label that has not yet been translated.

The Translation function is also available in the Utilities Work Area and is described in detail in the Translations section of Chapter 8, Utilities.

Program

A program is a group of activities directed toward a common purpose, objective, mission, or goal. The term is generic and may be applied to many types of activities. Several examples show how the term is commonly used in Defense Resource Management. The term "Defense Program" refers to all activities directed toward the total defense mission. The term "Service Program" refers to all activities associated with all activities of a Service. The overall "Acquisition Program" refers to all activities whose purpose is to add a capability to defense through the procurement of material items. The term "Counter Terrorism Program" refers to a collection of all of the activities and resources that directly contribute to countering the effects of terrorism.

Proportional Cost

A cost that is calculated as a percentage of some other cost calculation is a Proportional Cost. For example, if the amount that must be included in the budget for National Insurance is 10% of the budget for salaries, National Insurance can be treated as a Proportional Cost whose value is set to 10% and which is applied to costs using the Military Pay Cost Account.

Information on creating Proportional Costs is described in Chapter 6, Cost Data.

Reports

FOCIS Reports provide the primary tools that document the Resources and Costs of the defense program in the currently open Position database. Reports are used with Analysis Models (see Chapter 6) *to select, organize, and summarize data into useful information* to support management decision-making and defense program analysis.

Reports are described in Chapter 7, Reports.

Reserve Personnel

Reserve Personnel are one of four FOCIS Personnel Classes used to create and define Personnel Types. The Reserve Personnel class exists to represent military personnel who do not serve on a fulltime basis and are paid based on the number of days they actually do serve during a year, usually for some form of training. FOCIS calls the number of days a Reserve

person serves during a year "Training Days" and they are entered as part of Unit Manpower data.

Services and Agencies

Defense activities are typically divided among major activities that are often called "military Services," such as Land Forces or the Army, Naval Forces or the Navy, etc. Other non-military institutions also exist within the overall defense institution, which FOCIS calls "Agencies." A list of typical defense Agencies includes Ministry of Defense, Defense Arsenal, Department of Civil Defense, and Defense Acquisition Agency. Services and Agencies typically have their own budgets and Manpower ceilings. FOCIS allows users to create any list of Services and Agencies and use them when creating Units.

Since all FOCIS Unit Resources and Cost Data are associated with a Unit and every Unit is associated with a Service or Agency, all Resources and Costs can also be seen using these categories. Typically, a separate Service or Agency is created in FOCIS for each institution that is managed directly by the highest defense organization as a separate major activity and has its own distinct budget.

Information on creating and modifying Services and Agencies is found in Chapter 2, Setup Data.

Setup Information

Setup information contains the lists of descriptive characteristics that establish how all Unit Structure, Unit Resources, and Cost Data are represented in a FOCIS Position. Setup information tailors a Position to the administrative practices and terminology of a specific country. FOCIS Setup information consists of the list of Services and Agencies, Command Levels, Personnel Types, Metrics, Equipment Categories and Equipment Items, War Reserve Categories and War Reserve Items, Currencies, Cost Accounts, Budget Line Categories and Budget Line Items, and Analysis Models.

Setup information is viewed and modified in the Setup Work Area, which is described in Chapter 2, Setup Data.

Stored Equipment

When Units have Equipment in their inventory, there are situations when some of that Equipment is placed in storage to ensure it is in operational condition should emergencies arise. These Equipment Items typically receive a different level of maintenance than those items in use for operational or training purposes. In the Equipment Operating Cost windows, users can create Cost Factors whose Cost Drivers are the quantities of Stored Equipment. When FOCIS performs a Cost calculation, it subtracts the Stored quantity from the Actual quantity to use with Equipment Operating Cost Factors identified as "Per Item Per Year."

Information on entering and modifying the Stored quantities is found in Chapter 4, Unit Resource Data. Information on creating and modifying Equipment Operating Cost Factors is found in Chapter 5, Cost Data.

System (Database)

FOCIS stores information that is not dependent on or related to a Position in a separate database called the System database. This database holds User Information (i.e., user names, passwords, permissions, and usage preferences), Translations (i.e., screen labels and FOCIS terminology), and the Reports available in this FOCIS installation. The entire System database can be backed up and restored; and Translations and Reports can be exported or imported to facilitate movement between FOCIS installations.

Chapter 8, Utilities, explains these functions in detail.

Target Amount (Unit Resource Data)

A target amount is the amount of a Unit Resource that represents how much of that Resource a Unit should have in order to be considered fully effective. The default installation of FOCIS uses the term "Authorized" to label the "targeted" amounts of Manpower and Equipment and the term "Desired" to represent the "targeted" amounts of Equipment Use, Unit Activity, and War Reserve Material.

Training Days

Reserve Personnel do not serve fulltime, and are paid and may receive allowances based on the number of days of service during a year. FOCIS calls the number of days a Reserve person serves "Training Days." This can also be understood as Paid Days. FOCIS uses the number of Training Days and the Actual quantity per year to estimate the budget requirement for Personnel Types that use the Personnel Class called "Reserve Personnel."

Unit

A Unit is any type of organization at any level in the overall administrative structure. Each Unit created in FOCIS may possess Unit Resources and, depending on the Cost relationships created, each Unit accounts for its use of budget funds. Units exist in a hierarchy with all Units having a Parent Unit, a Unit Name, a Service, and a Command Level. Units may also have a Unit Code.

Unit Activity

Units conduct activities to carry out their missions or to prepare (i.e., train) for future missions. FOCIS allows users to identify any number or activities in a Unit and then record both the Desired and Actual levels of those activities year by year. Each type of activity is initially established for use by any Unit by creating a Metric with that activity name in the Metrics Setup window. Once established as a Setup item, any activity can be used to describe

the activities of any Unit. Unit activities can be Training Exercises or Field Training Days for combat units, Rescue Sorties for a helicopter unit, Patient Days for a hospital, or Student Days for a school. Users can create any activity and use it with any Unit.

Unit Code

A Unit Code is any combination of numbers, letters, and other characters (e.g., bracket [ ], slash /, hyphen -, etc.) used by a country to uniquely identify a Unit. No two Units should have the same Unit Code. Every Unit is identified by its Unit Name and optionally by a Unit Code. Both the Unit Code and Unit Name may be changed in any year, but the general practice is to not change a Unit's Unit Code. In almost all instances, a change in Unit Code signifies the organization of a new Unit.

Within FOCIS, Unit Codes can be left blank, if desired. If used, Unit Codes are entered when a new Unit is created, and edited in the Unit Organization window of the Unit Data Work Area after a Unit is created.

If a Unit Code is entered, it can be used to identify a Unit when importing data using the Import Unit Data by Unit Resource function. Unit Codes are often a good way to link data from country databases into FOCIS.

See the Import Unit Resources By Resource Type function of the Import Data feature in Chapter 8, Utilities, for more information on importing Unit Resources from Excel files.

Unit Equipment

Unit Equipment is one of five types of Unit Resource data. In FOCIS, Unit Equipment is defined in terms of one of the Equipment Items previously entered in the Equipment Setup window.

When Unit Equipment data are entered, annual quantities are entered for Authorized, Actual, and Stored Equipment quantities. Authorized Equipment amounts are the number of Equipment Items that the Unit should have in its possession in peacetime to be considered fully capable and ready. Typically, these quantities are established in an official document that is sometimes called the "Table of Organization and Equipment." The quantity shown as the Actual amount reflects the number of Equipment Items that physically are with the Unit. In some countries, some of the Actual Equipment in a Unit is placed in local storage and maintained to be ready with very little preparation to be used in emergency situations. The number of Equipment Items in Storage can be recorded and separate operating costs can be entered for these items that can be different from the Items that are not in storage. The convention in FOCIS is to record the Authorized and Actual quantities as those that exist on the first or last day of the year.

A more complete description of Unit Equipment and how it is entered in FOCIS is found in Chapter 4, Unit Resource Data.

Unit Manpower

FOCIS Unit Manning is defined in terms of a Personnel Type and a Budgeting Service. The Budgeting Service is always identified separately from the Service or Agency of the Unit so that when Personnel from one Service are stationed in a Unit of a different Service, it is clear which Service budget will pay for those Personnel.

When Unit Manpower data are entered, annual quantities are entered for both Authorized and Actual quantities. Authorized Manpower amounts are the number of Personnel that the Unit should have (in peacetime) to be considered fully capable and ready. Typically, these quantities are established in an official document that is called the "Table of Organization and Equipment." The quantity shown as the Actual amount reflects the number that will be paid— typically the number present for duty. The convention in FOCIS is to record the Authorized and Actual quantities as those that exist on the first or last day of the year.

For Personnel Types that represent the FOCIS Personnel Class of Reserve Personnel, the number of Training Days per year per soldier is entered and the costs for Reserve Personnel are based on the Actual quantity and the number of training days.

A more complete description of Unit Manpower and how it is entered in FOCIS is found in Chapter 4, Unit Resource Data.

Unit Name

The Unit Name is the name used to identify a Unit. The Unit Name can be changed year by year using the Edit function in the Unit Structure of the Unit Data Work Area. Unit Names can be used to assign content to categories in Analysis Models, may appear in Reports, and can be used to identify Units when importing data from Excel worksheets.

Unit Organization Structure

The Unit Organization Structure represents a multi-level hierarchy of Units. Each Unit is defined, year by year, as being administratively subordinate to one other Unit, know as its Parent Unit. The FOCIS Unit Organization Structure represents the peacetime, administrative structure. If there are organizational structures that apply in other than peacetime, they can be represented separately using an Analysis Model created for that purpose. Use these Analysis Models in the Report layout to show output information by the revised structure.

Unit Resources

Unit Resources include Manpower, Equipment, Equipment Use, Unit Activity, and War Reserves. Unit Resources are entered with annual numeric data indicating how much of that Resource or Resource Use is required in order to achieve a fully ready state (this amount is labeled as Authorized or Desired) and how much of that target amount is to be funded in the plan represented by the Position.

Unit Resources are described in more detail in Chapter 5, Unit Resource Data.

Unit Structure

See Unit Organization Structure.

Unlocked

Positions can be Locked or Unlocked. The status of this setting controls whether the data in the open Position can be modified. When a Position is unlocked, users with appropriate Permission can create and modify data. When a Position is locked, users can only view data. A Position is locked if the icon shows in the FOCIS Toolbar and is unlocked if the icon shows. Positions can be locked and unlocked only by users with System Administrator Permission. Users can change back and forth between the Locked and Unlocked statuses by clicking the icon. Reports and all export functions are fully functional in both the Locked and Unlocked conditions.

War Reserve Material (WRM)

War Reserves are stockpiles of material held out of day-to-day use so that an adequate supply will be available to support an emergency situation. Typical War Reserve Materials include fuel, ammunition, and spare parts. These materials are almost always exactly the same types of materials that Units need to conduct peacetime training and operations.

The fact that the same type of material serves two different purposes can cause some confusion to FOCIS users. The important point to remember is that FOCIS tracks both material needs for peacetime use and material bought to increase a stockpile. Material costs for peacetime use are represented as Cost Factors associated with Unit Equipment, or general Unit operations that are associated with 1) Units and their activities, 2) the amount of Equipment Units have, and/or 3) the amount that Units will use the Equipment. The cost of materials for War Reserve stockpiles is based on the year-to-year changes in the total amount of material recorded as War Reserves. When the total amount of a Resource in a Service or Agency increases from one year to the next, FOCIS uses the War Reserve Procurement Cost inventory data to estimate the cost of material bought for this purpose.

War Reserves are one of five Unit Resources, and the techniques used to add and modify these data are described throughout Chapter 4, Unit Resource Data. Cost data associated with War Reserve Material Procurement is described in the War Reserve Material (WRM) Procurement Cost Data section of Chapter 5, Cost Data.

Work Area

The functions in FOCIS are divided into six major function groups called Work Areas. Each Work Area contains a group of functions related to one type of data or one type of activity. The six work areas in FOCIS are Unit Data; Cost Data, Analysis Models, Setup Data, Reports, and Utilities, as shown in Figure I-5.

Users switch between Work Areas using either the Work Areas menu options or the icons at the bottom of the Explorer Bar (left frame of the main FOCIS window).

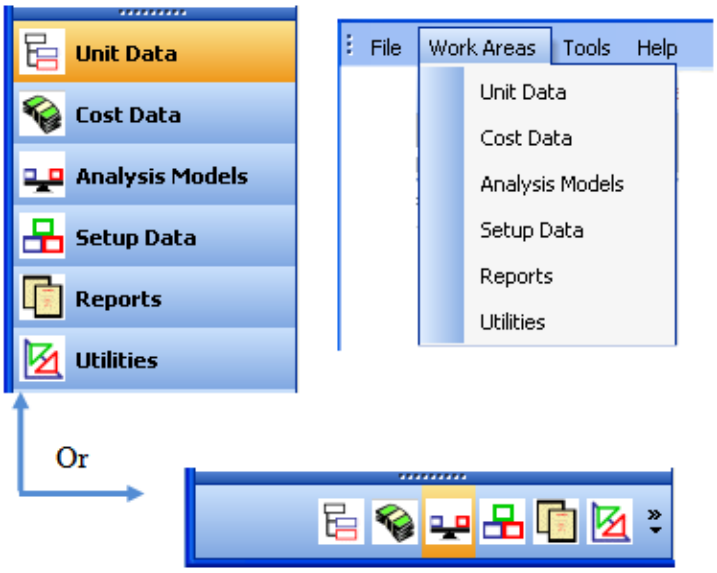


Figure I-5. Work Area Access Methods

Appendix II.
Install, Update, and Uninstall FOCIS-2008

Introduction

The instructions in this appendix describe the steps you can use to:

- Install FOCIS-2008,
- Update FOCIS-2008 with the latest release after it has already been previously installed, and
- Uninstall FOCIS-2008.

Note for former FOCIS users:
FOCIS-2008 is the second generation of the FOCIS application. It is possible to install FOCIS-2008 on the same computer as the original version. If the original version of FOCIS remains on the computer for a period of time after FOCIS-2008 is installed, it can be used to ensure that all information from the original version is recovered and transferred to FOCIS-2008. Transferring data between the original version and FOCIS-2008 is done using FOCIS's Backup and Restore functions.

FOCIS-2008 Install software can be used with the 32 or 64 bit versions of any of the following Microsoft Operating Systems:

- XP (any version but updated to at least Service Pack 2)
- Vista (any version)
- Windows 7 (any version)

The FOCIS-2008 installation software installs the FOCIS application as well as several supporting applications including:

- SQL Server 2005
- .NETFramework 2.0

When successfully completed, the installation software will place a FOCIS-2008 icon on your desktop. You can use this icon to start FOCIS-2008 at any time. Only one instance (one logged-on user) of FOCIS can be run at one time on a single computer.

The next sections of the appendix describe:

- Actions that must be done prior to installing FOCIS-2008. It is essential that these steps be taken before installing FOCIS. Failure to follow these instructions will result in a failed installation and will require extensive work to recover to a point where the installation can be re-started.
- The FOCIS-2008 installation process

Later sections of this appendix describe:

- How to transfer existing FOCIS data to the FOCIS-2008 version
- How to update FOCIS-2008 software to its latest version as maintenance and enhancement updates are issued. Updates can be made at any time after FOCIS-2008 has been successfully installed.
- How to uninstall FOCIS-2008.

Installing FOCIS-2008

FOCIS-2008 is normally installed from a CD provided by the IDA FOCIS representative after demonstrating the installation process, training prospective installers, and providing this appendix as a permanent reference. Users should carefully follow the installation instructions to avoid inadvertently causing a problem that may require advanced assistance to correct.

Preparing to Install FOCIS-2008

Different versions of the Windows Operating System (OS) require slightly different steps to reach common functions such as the **Add/Delete Programs** function. In general, these instructions do not cover each specific version of the Windows OS but rely upon the user to know how to reach the appropriate function through the Windows menu system.

Follow these steps before installing FOCIS-2008:

1. If any version of FOCIS is currently running, close it now.
2. If any non-Windows firewalls (e.g., Zone Alarm, McAfee Security Suite, etc.) are enabled, close them now.
3. Ensure that the current PC user has Admin privileges in the Operating System.
4. If the Operating System is Vista or Windows 7, turn off the User Account Control before installing FOCIS-2008.
    a. Take the following steps to turn off the User Account Control in Vista:
        1) Open the Windows Control Panel.
        2) Locate and double-click the **User Accounts**

icon. The User Accounts window will open (Figure II-1).

Figure II-1. User Accounts Window

3) Click the **Turn User Account Control on or off** link in the User Accounts window. The Turn User Account Control On or Off window will open (Figure II-2).

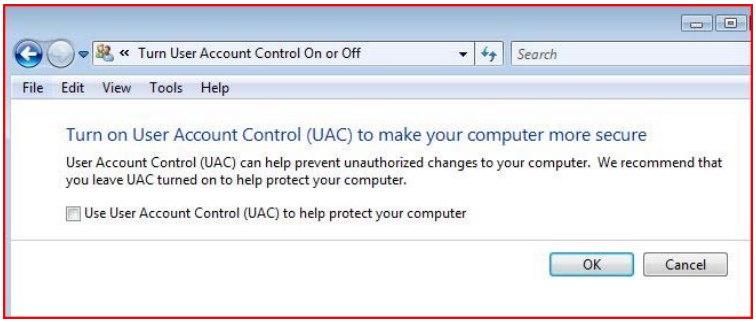


Figure II-2. Turn User Account Control On or Off Window

4) Clear the "Use User Account Control (UAC) to help protect your computer" check box.

5) Click **OK** and reboot your computer.

b. Take the following steps to turn off User Account Control in Windows 7:

1) Open the Windows Control Panel.

2) Select **User Accounts and Family Safety > User Accounts > Change User Account Control settings**.

3) Move the slide bar to the bottom (**Never notify**).

4) Click **OK** and reboot your computer.

5. Make sure that the computer has 2 GB of Free Space available on the drive where Windows is installed (most likely the C: drive).

   a. Open Windows Explorer.

   b. Right-click on the C: drive folder and select **Properties** from the shortcut menu (Figure II-3).

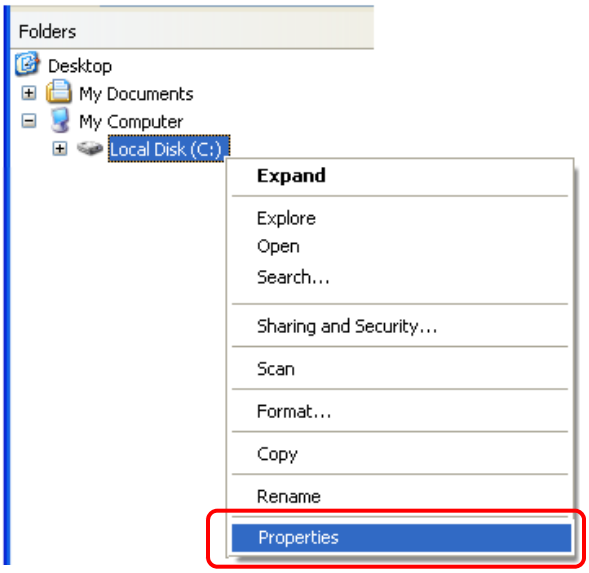


Figure II-3. Shortcut Menu for C: Drive in Windows Explorer

The Properties window will open, displaying the amount of free space similar to Figure II-4.

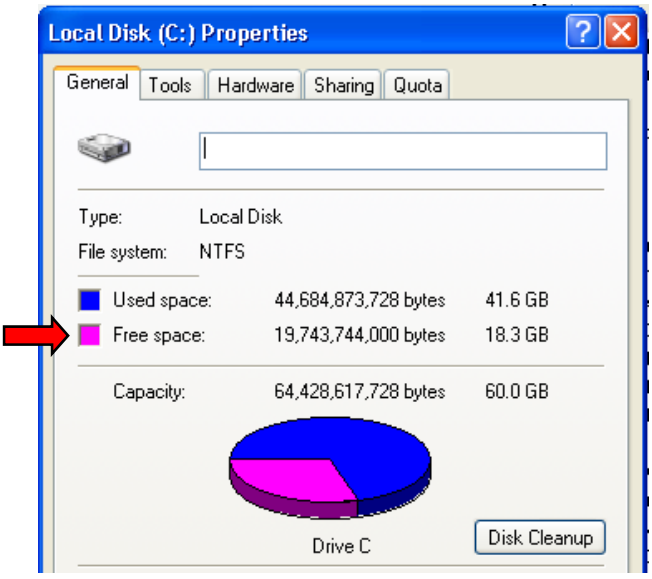


Figure II-4. Properties Window

c. Make sure that the amount of free space is greater than 2,000,000,000 bytes before installing FOCIS-2008. This space is needed for the FOCIS software, the database engine, and other support applications.

6. Ensure that no anti-virus (A-V) applications are running.

   a. Check the icon tray in the lower right-hand corner of the Windows Desktop status bar (bottom of Windows Desktop) to see if any anti-virus icons appear. One way to do this is to slowly move the cursor over each icon in the icon tray and look for tool tips that identify anti-virus software. If you find one, try to right-click on that icon and see if there is a **Close** or **Exit** (or similar) shortcut menu option. If there is, click it to close the application. If there is no **Close** or **Exit** option, use the icon to start the anti-virus application and look for a way to stop the application.

   b. Stopping Norton Anti Virus and some other anti-virus applications can be very difficult—there are no apparent means to Stop, Exit or Close the application. There is, however, a foolproof way to do this:

      1) Right-click on the **My Computer** icon

on the Windows Desktop and select the **Manage** function from the shortcut menu to open the Computer Management window, similar to Figure II-5.

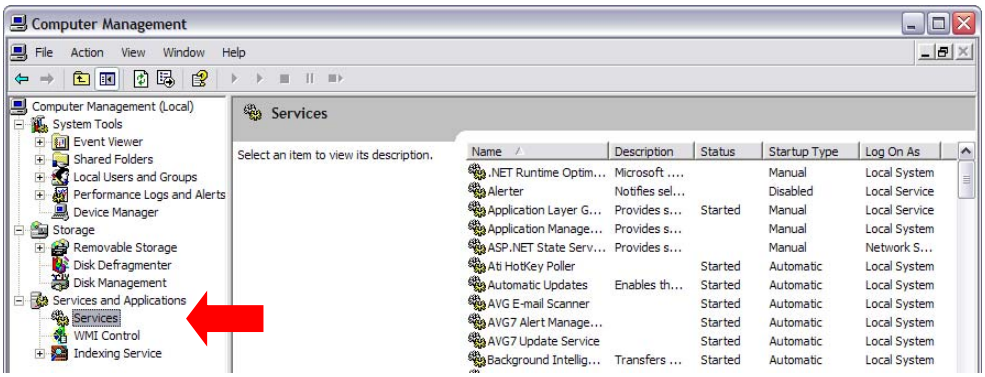


Figure II-5. Computer Management Window

      2) Find and click on the **Services** function in the left pane (as indicated by the red arrow in Figure II-5).

      3) Scroll down in the right pane and look for any Service Name that starts with Symantec or McAfee (or other anti-virus software distributor). When you find a name starting with Symantec or McAfee (or other A-V source), right-click on that line and choose the **Stop** option from the shortcut menu. Do this for ALL entries starting with the name of an A-V source.

c. The anti-virus software can be restarted manually after the FOCIS installation is completed. This will also happen automatically when the system is next rebooted.

7. If previously installed, **uninstall** MSXML 6.0 Parser Service Pack 2 (this action will not adversely affect any installed software).

   a. To detect whether MSXML 6.0 Parser Service Pack 2 is installed:

      1) Click **Start > Settings > Control Panel**.

      2) Select the appropriate next step depending on your operating system:

         a) On Windows XP, double-click the **Add or Remove Programs** icon.
         b) On Windows Vista: double-click the **Programs and Features** icon.
         c) On Windows 7, select **Programs > Uninstall a program**.

      3) Scroll down the list. If you do **not** see an entry named "MSXML 6.0 Parser Service Pack 2", skip to Step 8. If you **do** see an entry, continue with Steps 7.b.1) through 7.b.6) below to uninstall this item before installing FOCIS.

   b. If the steps above show that MSXML 6.0 Parser Service Pack 2 is installed:

      1) Download a utility called "Window Installer Cleanup Utility" by clicking on the following link: http://download.microsoft.com/download/e/9/d/e9d80355-7ab4-45b8-80e8-983a48d5e1bd/msicuu2.exe

      2) Double-click the "msicuu2.exe" file to install this utility on your computer.

      3) After this installation is completed, click **Start > Programs > Windows Installer Clean Up**.

         A window with a list of programs will open.

      4) Scroll down the list and select the item called "MSXML 6.0 Parser Service Pack 2".

      5) Click **Remove**.

         MSXML 6.0 Parser Service Pack 2 will be uninstalled.

      6) Reboot your computer and install FOCIS. **Note:** If your operating system is Windows Vista, **do not reboot at this point**. Instead, continue with Step 8. At the end of Step 8, you will reboot and install FOCIS.

8. For Windows Vista, take the following steps to detect whether your computer has **Strict Password Policy** enabled and make needed modifications:

   a. To detect whether **Strict Password Policy** is enabled:

      1) Click **Start > Run**.

         The Run window will open (Figure II-6).

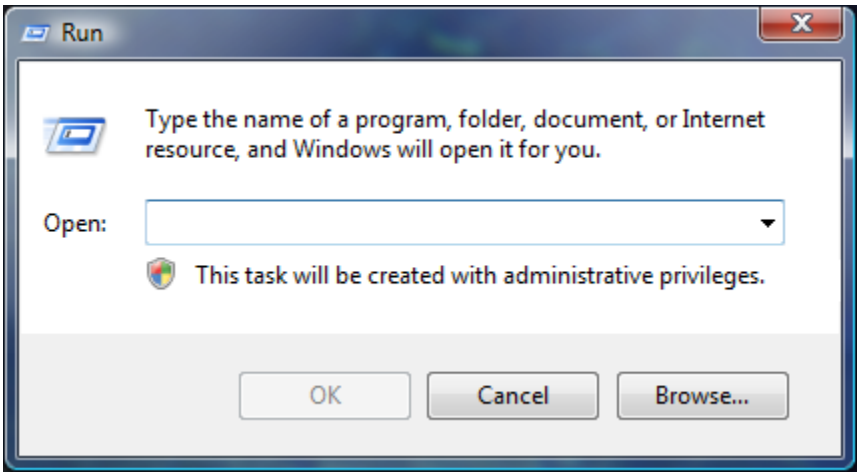


Figure II-6. Run Window

2) In the Open field, type "**gpedit.msc**" (without the quotation marks) and click **OK**.

   The Local Group Policy Editor window will open (Figure II-7).

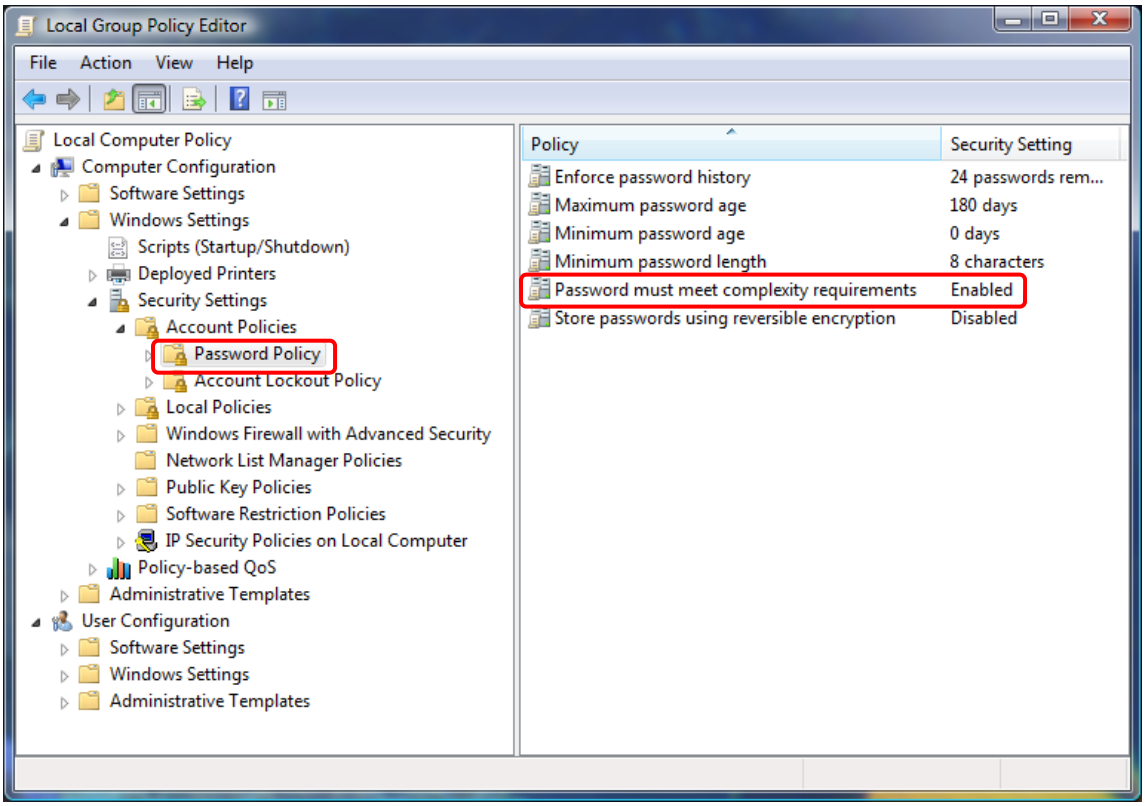


Figure II-7. Local Group Policy Editor Window

3) Keep clicking on the appropriate nodes in the left pane to expand the folder tree until you see the node **Password Policy**, as shown in Figure II-7.

4) Examine the status of the **Password must meet complexity requirements** item in the right pane. If it is **Disabled**, continue with Step 8.a.5) below. If it is **Enabled**, take the following steps:

   a) Double-click the item to open the Password Must Meet Complexity Requirements Properties window, shown in Figure II-8.

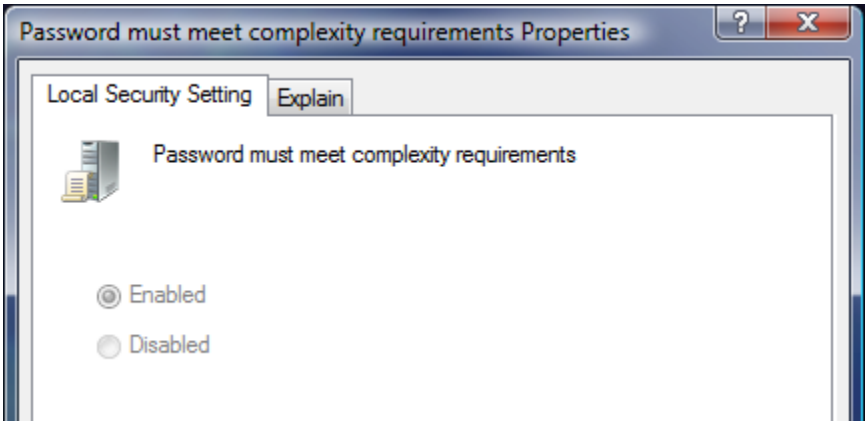


Figure II-8. Password Must Meet Complexity Properties Window

   b) Choose the **Disabled** option, and then click **OK**. If the Password Complexity Requirements policy has been disabled properly, the Password Policy in the Local Group Policy Editor window should show the item as **Disabled**.

   Note: If you cannot carry out the above step, you do not have high enough permissions on this computer. You will need to ask an administrator to temporary disable the Password Must Meet Complexity Requirements property before installing FOCIS-2008.

5) Reboot and install FOCIS-2008.

Installation of FOCIS-2008

Take the following steps to install FOCIS-2008:

1. Place the FOCIS-2008 Install CD in the CD or DVD drive of your computer.
2. If Windows Explorer does not automatically open, open it and scroll down in the left pane to show the contents of the CD, as shown in Figure II-9.

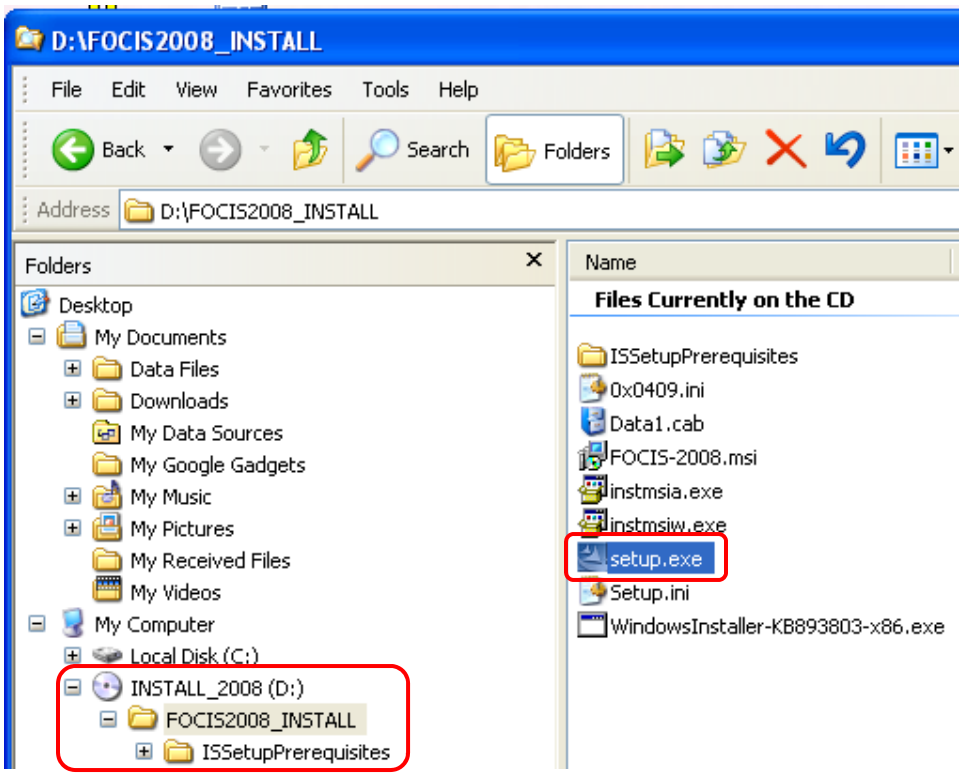


Figure II-9. Windows Explorer Showing Contents of FOCIS2008_INSTALL CD

3. Double-click the **setup.exe** file in the right pane (Figure II-9).

   The InstallShield Wizard will open (Figure II-10).

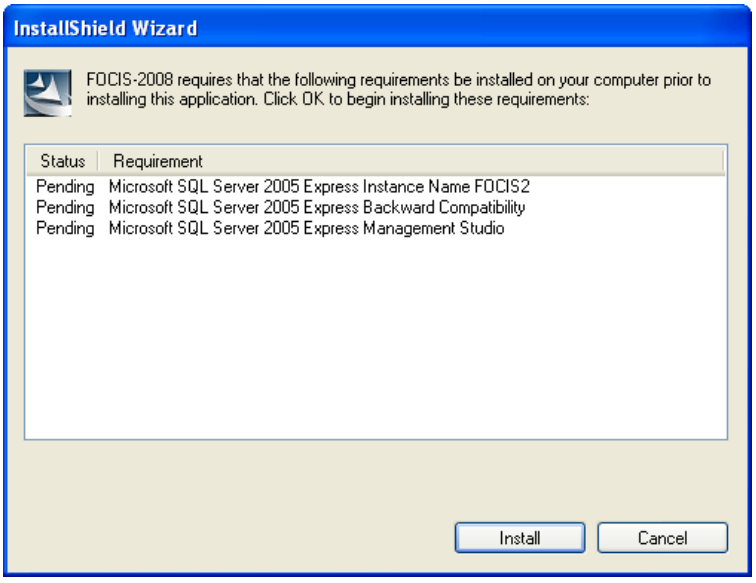


Figure II-10. InstallShield Wizard

4. Click **Install**.

FOCIS installs the three database applications associated with Microsoft's SQL Server 2005 shown in Figure II-10 after you click the **Install** button. If any of the components are already installed, FOCIS will skip that portion of the installation. This step can take several minutes to complete.

IMPORTANT: If the computer where FOCIS-2008 is being installed has a non-Windows firewall that has not been shut down, a window such as the one shown in Figure II-11 (from McAfee Security Suite) may appear. If it does, you **must** select the **Allow access** option in order to successfully install FOCIS-2008. If this access is not allowed, the database engine will not install completely and removing the components already installed is a very difficult process, sometimes requiring that the third party firewall software be removed from the computer before the FOCIS-2008 installation can be completed successfully. (***Note**: the FOCIS installation software does not access the Internet as* Figure II-11 *indicates. It is trying to check to see if another version of SQL Server 2005 is already installed on a network. This is an essential step and must be allowed.*)

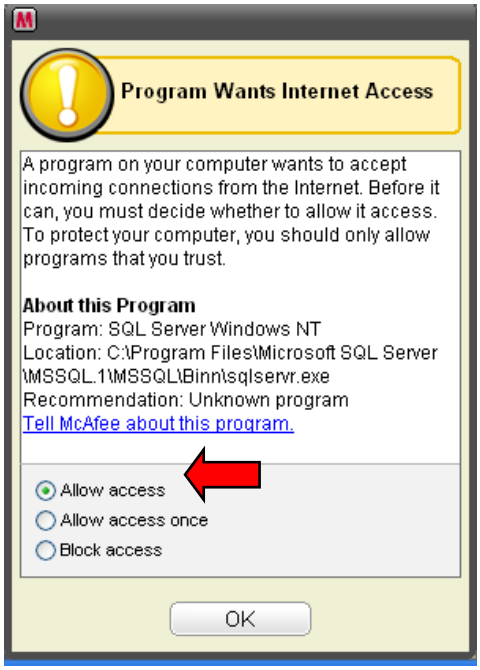


Figure II-11. Example of Firewall Warning

During the installation of SQL Server components, the name of the component being installed (e.g., Microsoft SQL Server 2005 Express Instance Name FOCIS2) will be listed along with a display showing that the process is still in progress (Figure II-12).

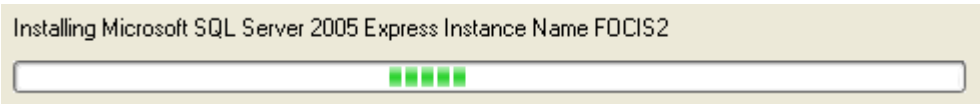


Figure II-12. Installation Progress Bar

When the database components have been installed, the FOCIS application software will be fully installed and the License Agreement window will open (Figure II-13).

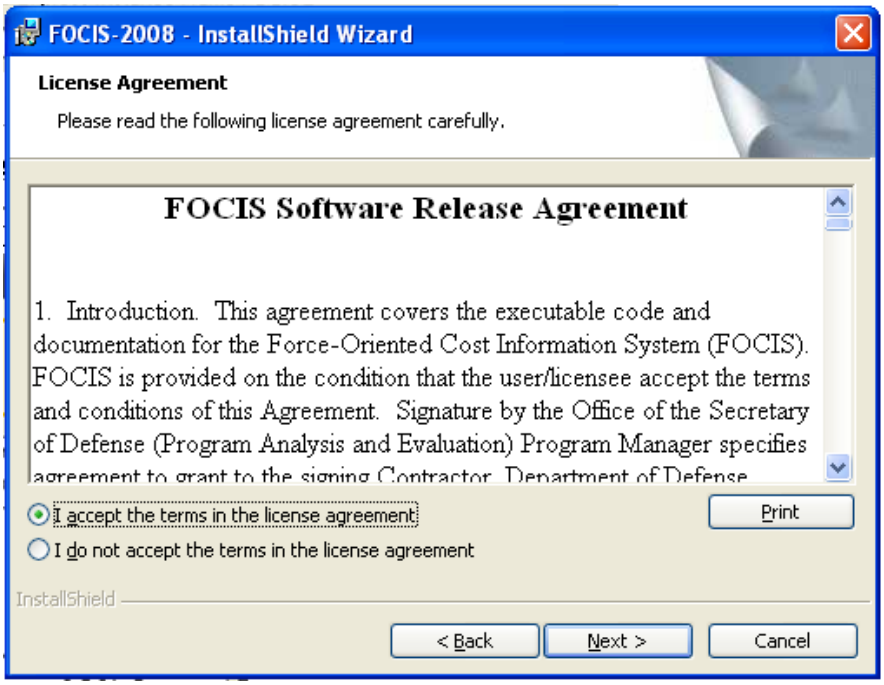


Figure II-13. License Agreement Window

5. Select the **I accept the terms in the license agreement** option and click the **Next** button. (The full text of the license agreement is provided as Attachment 1 to this appendix beginning on page II-19.)

   The Destination Folder window will open (Figure II-14).

Figure II-14. Destination Folder Window

6. While you can change the location and name of the folder where FOCIS-2008 is installed, accepting the default is recommended. Click the **Next** button to continue with the recommended location and folder.

   The Database Server window will open (Figure II-15).

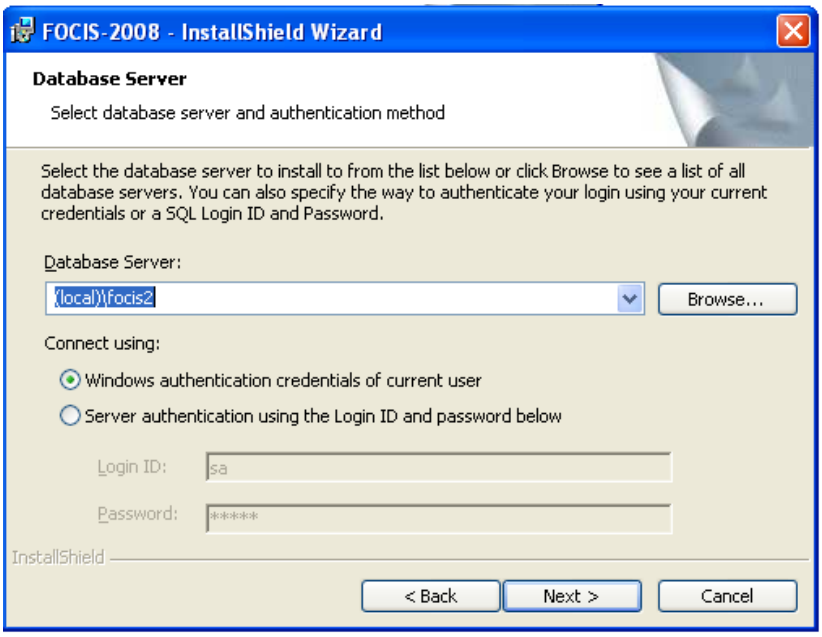


Figure II-15. Database Server Window

7. Do not change any of the settings on this window. Click the **Next** button. (This window provides information needed to connect FOCIS to the database engine (SQL Server 2005 Express)).

   Note: If you get the error message shown in Figure II-16, select the "Server authentication using the Login ID and Password below"option in the "**Connect Using:**" area. Do **not** change the Login ID or password.

Figure II-16. Error Message

The Setup Type window will open (Figure II-17).

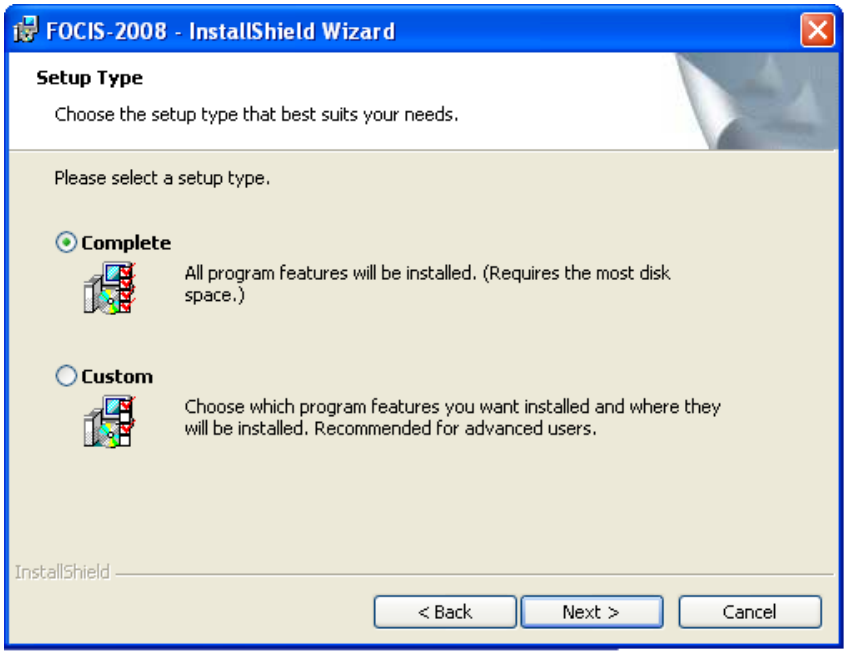


Figure II-17. Setup Type Window

8. Leave the setup type set to **Complete** and click the **Next** button.

   The Ready to Install the Program window will open (Figure II-18).

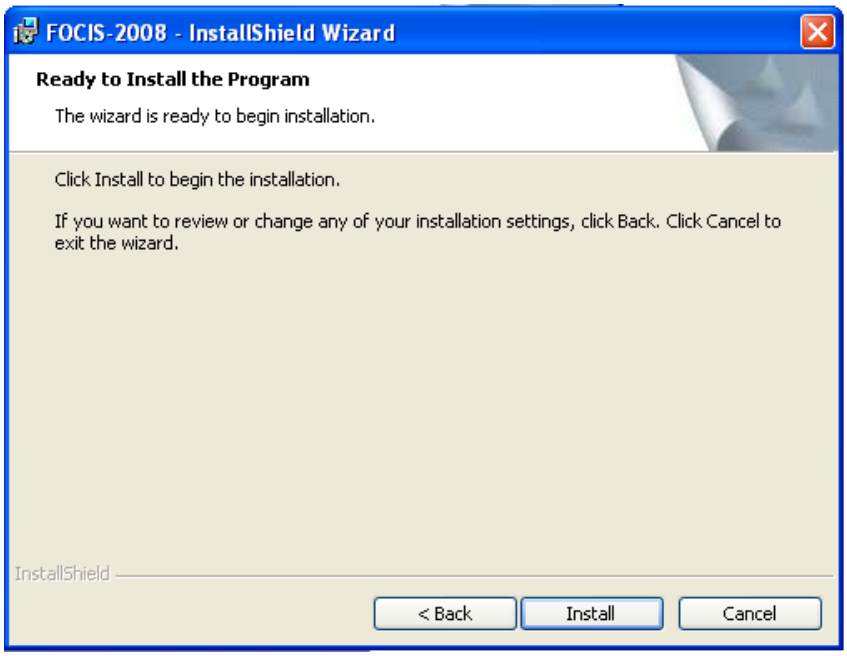


Figure II-18. Ready to Install the Program Window

9. Click the **Install** button to complete the final installation steps.

When the installation is complete, a new folder will have been created and FOCIS-2008 can be run by selecting and double-clicking the **FOCIS.exe** file in the FOCIS-2008 folder (Figure II-19) or by double-clicking the FOCIS-2008 icon on the desktop.

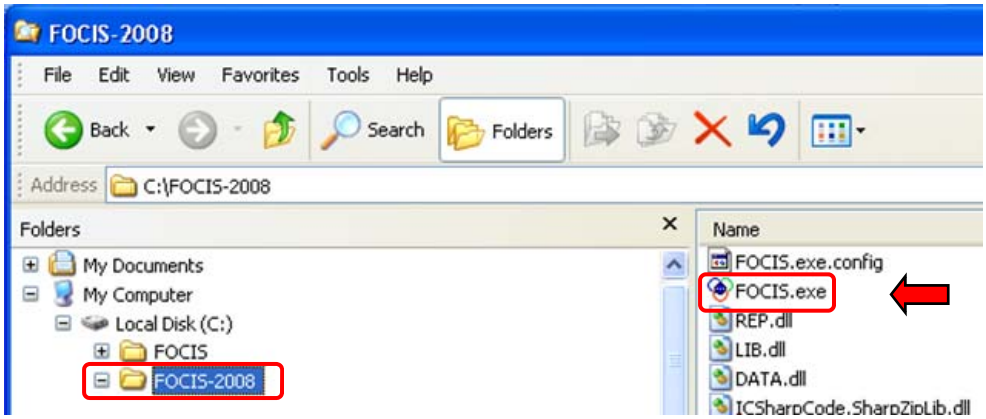


Figure II-19. FOCIS.exe File in Windows Explorer

10. When FOCIS-2008 is installed, two Position databases (i.e., the Demo Data Position and the Startup database) are placed in the list of available Positions. Other Positions from earlier versions or other users can be added using the FOCIS Backup and Restore functions discussed in Chapter 8, Utilities.

11. When FOCIS starts, you will need to provide a user name and password. FOCIS is installed with a single generic user "**global**" and uses the password "**g**" to gain access to the application, as shown in Figure II-20. Do not type the quotation marks.

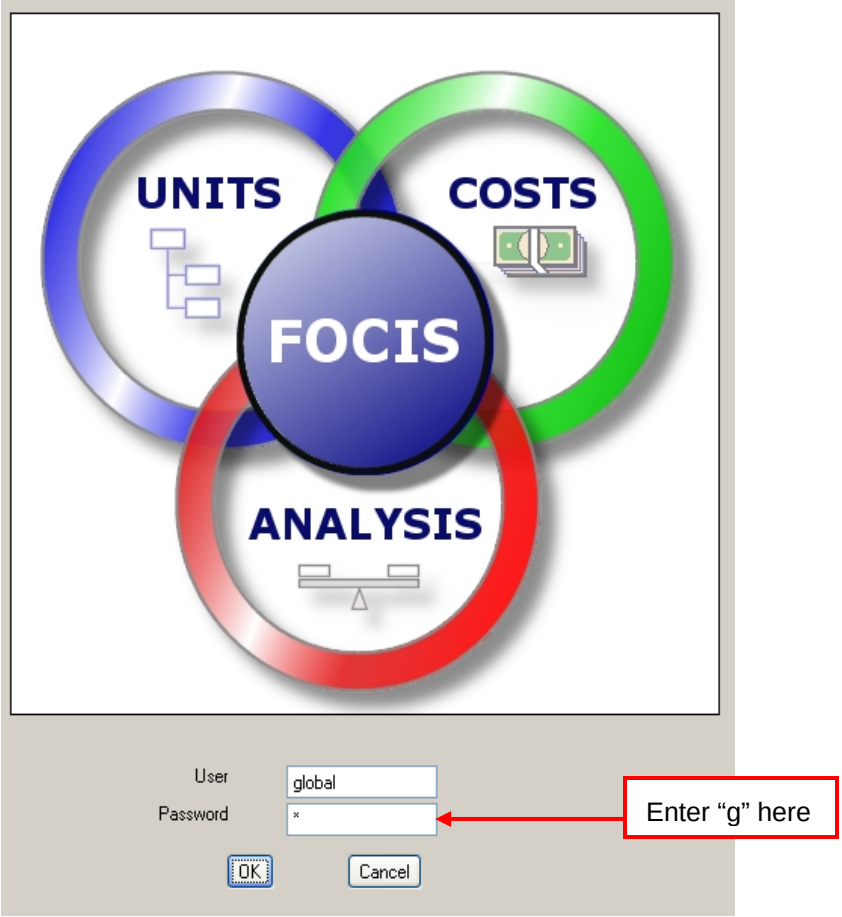


Figure II-20. User Name and Password for First-Time Login

When the application opens the first time, the Demo database has been set as the last Position used for the “global” user. Another database designed to support the creation of new country databases (“Startup”) is also available through the **Open** option on the **File** menu. To use database Positions created by another user, use the **Restore/Position** functionality in the navigation pane of the Utilities Work Area.

FOCIS tries to open the last Position database that was used by the logged-in user. The first time a new user logs on, there is no record of a prior Position, so FOCIS tries to find a Demo database. If it cannot find one, it opens FOCIS with no Position database selected. If this happens, the normal display areas will be empty and you will need to use the **File > Open** command on the main menu to select a Position.

Fixing Failed Attempts to Install FOCIS-2008

Take the following steps if an attempt to install FOCIS-2008 fails:

1. Disable **all** anti-virus software.
2. Open a Command Prompt window and type and run the following (including quotation marks):

"c:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\ARPWrapper.exe" /Remove

This command will remove SQL Express from your computer.

3. Look in your install CD and take the following series of steps:

   a. In one of the sub directories under **ISSetupPrerequisites**, locate the file named **SQLEXPR32.EXE**

   b. Copy this file to a new directory, C:\XYZ.

   c. From the Command Prompt window, type and run the following command: **"start /wait c:\xyz\sqlexpr32.exe /qb ADDLOCAL=ALL DISABLENETWORKPROTOCOLS=0 INSTANCENAME=FOCIS2 SECURITYMODE=SQL SAPWD=f0c1s"**

   This will force the installation of SQL Express on your computer. Start the FOCIS installation process over again by selecting the **setup.exe** file as indicated in Step 3 on page II-9.

Transferring FOCIS Data to FOCIS-2008

Data created in prior versions of FOCIS do not automatically migrate to FOCIS-2008. Any FOCIS data created with the original version that will be used with FOCIS-2008 must be moved from the previous version of FOCIS to FOCIS-2008 by each user.

> ***Note:*** *All types of FOCIS data can be moved from prior versions of FOCIS to FOCIS-2008, but data created in FOCIS-2008 CANNOT be used in prior versions.*

There are two major types of data used with FOCIS:

- FOCIS System data consisting of information on users, reports, and all translations.
- FOCIS Position data consisting of force structure, unit resources, cost data, and analysis models.

All FOCIS System data can be transferred to FOCIS-2008 using the FOCIS System Backup utility in the original version of FOCIS and the System Restore utility in FOCIS-2008. There may be situations where not all System data is wanted in the new FOCIS-2008 installation. If this is the case, user-created reports can be transferred using the Report Export and Import utilities. Translations can be transferred using the Translation Export and Import utilities.

FOCIS Positions can be transferred using the Position Backup and Restore functions. When a Position that was backed up from any earlier version of FOCIS is restored in FOCIS-2008, all required adjustments in the data structure to make the older version compatible with the

latest version are made automatically. This process retains the full integrity of the backup data.

After you are certain that all FOCIS data from the original installation has been successfully moved to FOCIS-2008, you can remove the prior version of FOCIS using the Control Panel's **Add/Remove Programs** function.

Updating FOCIS-2008

From time to time, FOCIS software is modified either to correct a problem or to add new features. Therefore, the Installation CD may not contain the latest version of the FOCIS-2008 software.

After successfully installing FOCIS-2008, you may need to upgrade to the latest version. All FOCIS updates are provided in compressed "zip" files with names like "focis2_update_100308.zip", where the "100308" is the date of the update in the format MMDDYY. Each compressed update file contains several individual files.

Take the following steps to update your version of FOCIS-2008:

1. Make sure FOCIS-2008 is closed.
2. Locate and open the compressed update file and extract all of the files directly into the FOCIS-2008 directory. This will always result in a Windows system prompt asking if you want to overwrite files of the same name. Always allow all files to overwrite the existing files.

   FOCIS-2008 is now updated to the latest release and can be used as normal.

Removing FOCIS-2008 Software

Removing FOCIS after a successful installation uses the same basic techniques used to remove any other Windows software application.

Failure to follow all instructions for installing FOCIS can cause the FOCIS installation to fail and removing the portions partially installed requires users to use Windows functions they may not be familiar with. If you are not comfortable making the changes described in the "Uninstalling FOCIS after an Unsuccessful Installation" section (Attachment 2 to this appendix), you should ask for the assistance of the computer support personnel in your organization.

Uninstalling FOCIS after a Successful Installation

1. Open the Windows Control Panel using the procedures applicable to your OS. Note: for Windows Vista, go to **Control Panel > Programs and Features**.

2. Double-click **Add or Remove Programs**.
3. Scroll down the list, select **FOCIS-2008**, and click **Remove**.
4. Scroll down the list, select **Microsoft SQL Server Management Studio Express**, and click **Remove**.
5. Scroll down the list, select **Microsoft SQL Server 2005 Backward compatibility**, and click **Remove**.
6. Scroll down the list and select **Microsoft SQL Server 2005**.

   A window will pop up.
7. Make sure the following three conditions are met in the window:
   - The **Remove SQL Server 2005 Instance components** check box should be selected.
   - The **FOCIS2: database engine** option under **Select an instance** should be selected.
   - The **Workstation Components** check box under **Remove SQL Server 2005 common components** should be selected.
8. Click the **Next** button, and then click the **Finish** button.
9. If either of the following applications appears in the list of installed applications, remove them: **MS SQL Server Setup Support Files** and **MS SQL Server VSS Writer**.
10. Check to see if the list of installed applications includes **MS SQL Server Native Client**. If you are certain that no other application uses SQL Server, remove MS SQL Server Native Client. If you are not certain, leave MS SQL Server Native Client in place.
11. Reboot your computer.

Uninstalling FOCIS after an Unsuccessful Installation

If FOCIS is installed while certain anti-virus software is running, the Microsoft SQL Server application will not fully install and this condition cannot be detected by the installation software. If this condition exists, the only way to resolve the problems with the incompletely installed Microsoft SQL Server 2005 software is to uninstall all Microsoft SQL Servers. Removing the SQL Server applications after a partial installation is a complicated process, but there is no alternative.

Because the instructions for this process are lengthy and complicated, and because most users will never need these instructions, they are included as Attachment 2 to this appendix, beginning on page II-21.

Attachment 1
FOCIS Software Release Agreement

1. Introduction. This agreement covers the executable code and documentation for the Force-Oriented Cost Information System (FOCIS). FOCIS is provided on the condition that the user/licensee accepts the terms and conditions of this Agreement. Signature by the Office of the Secretary of Defense(Cost Assessment and Program Evaluation) Program Manager specifies agreement to grant to the signing Contractor, Department of Defense (DoD) Agency, or other agency (the "Licensee") nonexclusive, nontransferable use of FOCIS.

2. Purpose. This agreement is provided to ensure effective configuration control of FOCIS and provide for the widest dissemination of corrections and improvements to the user community.

3. Agreement. Under this agreement, the Licensee is authorized to use FOCIS at multiple locations on the Licensee's premises. FOCIS is provided solely for the use of the Licensee. The Licensee shall not duplicate, disclose, or otherwise make available FOCIS or any support material to any other entity without the prior written consent of the OSD(CAPE) Program Manager. The Licensee may, however, disclose FOCIS and associated material to its employees, or to a contractor, to the extent reasonably necessary for the Licensee's use of FOCIS. FOCIS is fully subject to export control regulations.

The Licensee may not disclose any portion of FOCIS to another party without the prior written approval of the OSD(CAPE) Program Manager. If approval is granted, this agreement must be re-executed in advance between the new Licensee and the OSD(CAPE) Program Manager. A separate agreement with the OSD(CAPE) Program Manager is required for each new Licensee who requires use of FOCIS. A separate agreement is also required for each different project or contract under which FOCIS is to be used. This Agreement is nontransferable.

4. Terms. This Agreement is effective from the date of receipt of FOCIS until the work requiring FOCIS is completed or until the Licensee using FOCIS no longer needs it, whichever occurs earlier. The Licensee may terminate this Agreement by returning all complete and partial copies of FOCIS in its possession to the OSD(CAPE) Program Manager. The OSD(CAPE) Program Manager may terminate the Agreement hereunder if the Licensee fails to observe any of the terms and conditions of the Agreement. In the event of such termination, the Licensee will certify in writing that to the best of his knowledge, the original and all copies of FOCIS have been returned to the OSD(CAPE) Program Manager. In the event that the Licensee modifies FOCIS or includes it in any other software program, the Licensee agrees to remove FOCIS or any portion thereof from the modified program and return it to the OSD(CAPE) Program Manager upon termination of this agreement.

5. Protection and Security. The Licensee may make available any classified components of FOCIS to the Agency's or Sponsor's Security Manager for the purpose of safekeeping in accordance with local security practices. The Licensee may make copies of FOCIS and documents for backup and archive purposes. FOCIS was developed at the DoD's expense and is the sole property of the DoD. FOCIS may not be included in whole or in part in any software package for commercial retail sale.

6. Limitations of Warranty. FOCIS is provided "as is" without any warranty, either expressed or implied, including, without limitation, the warranties of merchantability and fitness for a particular purpose. There is no warranty regarding its performance, accuracy, or freedom from error or as to any results generated through its use. The Licensee assumes the entire risk as to the results and performance of FOCIS. The OSD(CAPE) Program Manager does not warrant that FOCIS will meet the Licensee's requirements or operate without interruption or error.

7. Limitation of Remedies. The OSD(CAPE) Program Manager obligation to replace a defective original software medium and provide consultative services "as required" is the Licensee's sole and exclusive remedy for any and all claims against the DoD arising out of, or in connection with FOCIS. In no event will the DoD or its Agencies be liable for any damages including, without limitation, incidental and consequential damages and damages for lost data or profits arising out of the use of or inability to use FOCIS.

8. General. This Agreement supersedes all prior written and oral communications regarding FOCIS and sets forth the entire agreement of the parties. This Agreement shall be construed in accordance with U.S. Federal Law regardless of where any action may be brought. If any provision of this Agreement is ruled invalid under any law, it shall be deemed modified or omitted to the extent necessary, and the remainder of the Agreement will continue in full force and effect.

Questions by the Licensee pertaining to this Agreement may be addressed to: DRMS Program Manager, Mr. Gary Morgan, OSD(Cost Assessment and Program Evaluation) Room 3C117, 1800 Defense Pentagon, Washington, DC, 20301-1800, telephone (703) 697-6415, fax (703) 695-7988.

Attachment 2
Uninstalling FOCIS after an Unsuccessful Installation

These instructions are written assuming that the original version of FOCIS is installed and is operating properly. If the original FOCIS version was not installed, some steps can be skipped; these are noted in the instructions.

After the Microsoft SQL Server applications have been removed, either or both versions of FOCIS can be installed. Instructions are included for backing up FOCIS data so that the original system settings and databases can be successfully re-used.

1. Preparation
    a. Locate the FOCIS-2008 installation CD. You may need it during the uninstall procedure.
    b. Locate the FOCIS (original version) installation CD if you want to reinstall this version later.
2. General Background
    a. Some instructions require you to use the Windows **Add or Remove Programs** application.
        1) This application is accessed in the Windows Control Panel, which is opened by clicking **Start > Settings > Control Panel** on the Windows Desktop (Figure II-21).

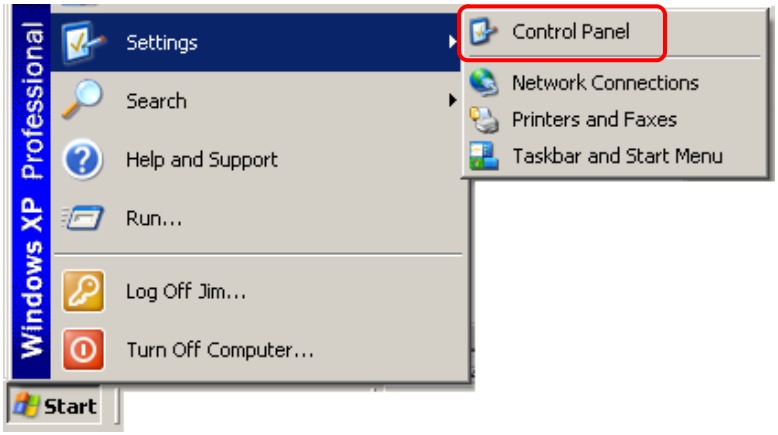


Figure II-21. Accessing Windows Control Panel

        2) Double-click the **Add or Remove Programs** icon to start this application (Figure II-22).

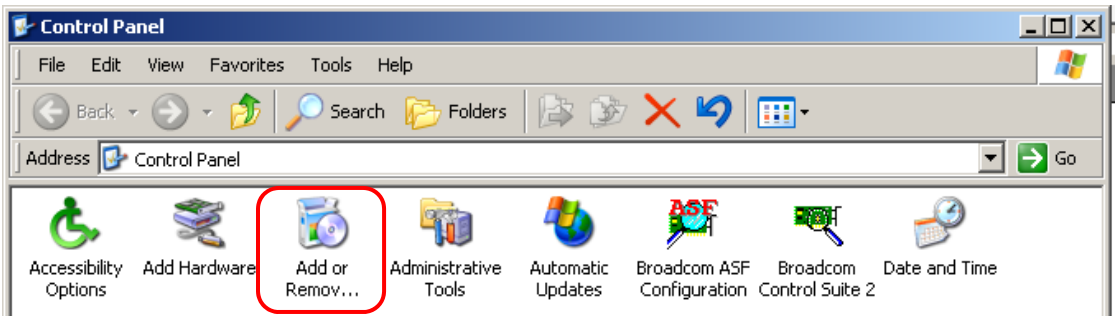


Figure II-22. Add or Remove Programs Icon

b. Some instructions require you to modify the Windows **Registry**. The **Registry** is opened by clicking **Start > Run** on the Windows Desktop, typing **regedit** in the Open field, and clicking **OK** (Figure II-23).

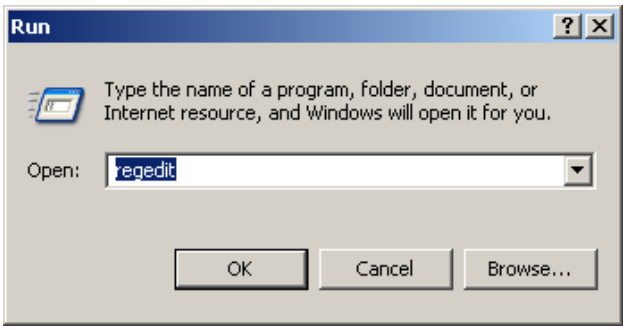


Figure II-23. Run Window Showing regedit Entry

c. Some instructions require that you execute commands from the **Command Prompt**.

1) The Command Prompt window is opened by clicking **Start > Programs > Accessories > Command Prompt** (Figure II-24).

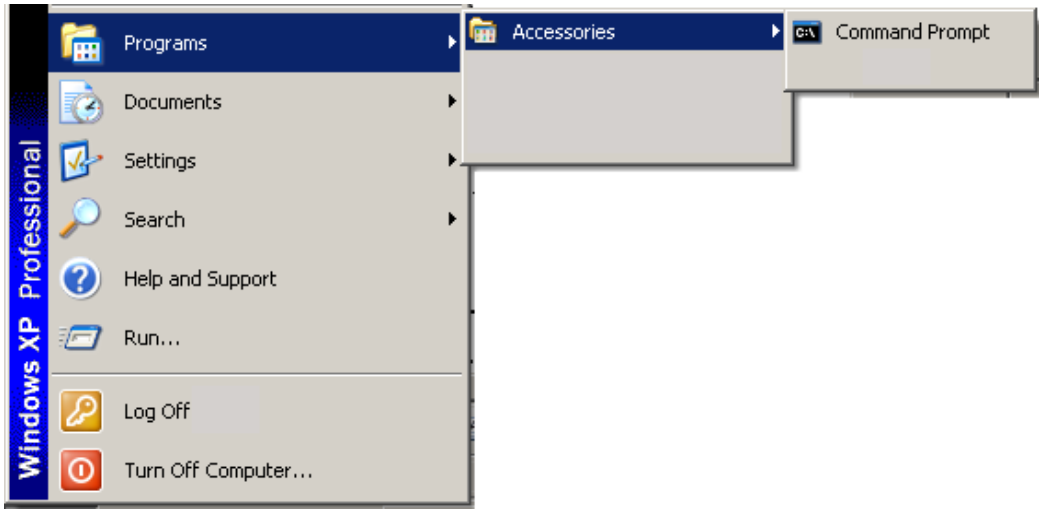


Figure II-24. Accessing Command Prompt

2) When an instruction is given to run a command in the Command Prompt window, the command can be copied from this instruction into the Command Prompt window using the **Copy** function in Word or PDF and the **Edit/Paste** function in the Command Prompt. The **Paste** function in the Command Prompt window is accessed by clicking the icon in the upper left hand corner of the Command Prompt window. When clicked, it shows a context menu as shown in Figure II-25.

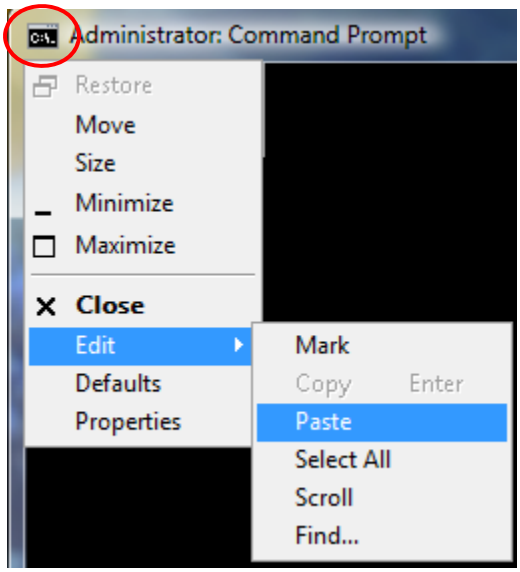


Figure II-25. Accessing Paste Function in Command Prompt

3. Instructions for Uninstalling FOCIS and its Database Software

   a. Remove the original version of FOCIS.
   If the original version of FOCIS was not previously installed, skip to Step 3.b.

      1) Prepare backups of FOCIS (original version) data and make sure FOCIS is not running.

         a) Open FOCIS.

         b) Using the FOCIS Backup Utility, create a backup of the System database. This will be used when FOCIS is later re-installed and can also be used with FOCIS-2008 to create the same working setup.

         c) Create backups of all Position databases you will want to use later.

         d) Copy the backup files to a directory you can later use to restore FOCIS-2008 settings.

         e) Close FOCIS.

      2) Remove "FOCIS" and "Microsoft SQL Server Desktop Engine (FOCIS)" components using the "**Add or Remove Program**" function from the Control

Panel. Note: for Windows Vista, this function is accessible from **Control Panel > Programs and Features**.

a) Uninstall the FOCIS application (Figure II-26).

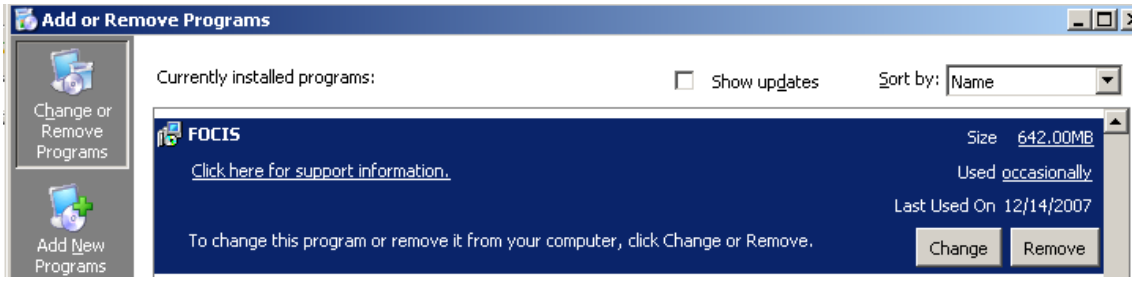


Figure II-26. Remove FOCIS

[Note: During the FOCIS uninstall process, a dialog may appear that includes the message: "this installation package could not be opened. Verify ..." If this appears, click **OK** and continue.]

b) Remove Microsoft SQL Server Desktop Engine (FOCIS) (Figure II-27)

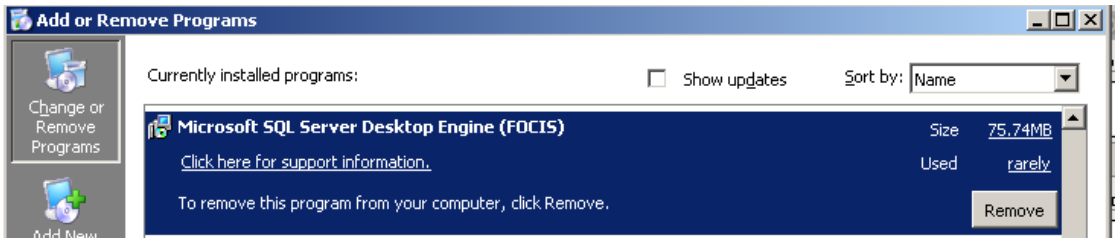


Figure II-27. Remove Microsoft SQL Server Desktop Engine (FOCIS)

3) Rename or remove the FOCIS directory by using Windows Explorer to either:

a) Rename the C:\FOCIS folder (e.g., to something such as “C:\FOCIS Archive”). This will allow you to use these folders if you plan to re-install FOCIS when the database servers are successfully removed,

or

b) Delete the FOCIS directory and its sub-folders. The FOCIS directory will most likely appear as C:\FOCIS.

b. Remove FOCIS-2008.

1) If the FOCIS-2008 software was installed, there will be an entry in the **Add or Remove Program**s window. If there is an entry for FOCIS-2008, complete the following steps. If FOCIS-2008 does not appear, go to Step 3.c.

2) If FOCIS-2008 was previously installed and used, prepare backups of FOCIS data and make sure FOCIS-2008 is not running.

a) Open FOCIS-2008.

b) Create a backup of the System database. (This will be used when FOCIS-2008 is later re-installed and can also be used with FOCIS-2008 to create the same working setup.)

c) Create backups of all Position databases you will want to use later.

d) Copy the backup files to a directory you can later use to restore FOCIS-2008 settings.

e) Close FOCIS-2008.

3) Using the Control Panel **Add or Remove Program**s function, remove FOCIS-2008. Note: for Windows Vista, this function is accessible from **Control Panel > Programs and Features**.

Note: During an uninstall of FOCIS-2008, a message box may pop up with the following text: "Error 1905. Module vfpoledb.dll failed to unregister ...". If this message appears, click **OK**.

4) Delete the FOCIS-2008 folder (this folder is likely on the C: drive). Alternatively, you can temporarily rename this directory until you are sure that none of the files will be needed later.

c. Ensure “Microsoft SQL Server 2005 Setup Support Files” are available.

1) Open the **Add or Remove Programs** window in the Windows Control Panel to see if "Microsoft SQL Server Setup Support Files" appears (Figure II-28). Note: for Windows Vista, this function is accessible from **Control Panel > Programs and Features**.

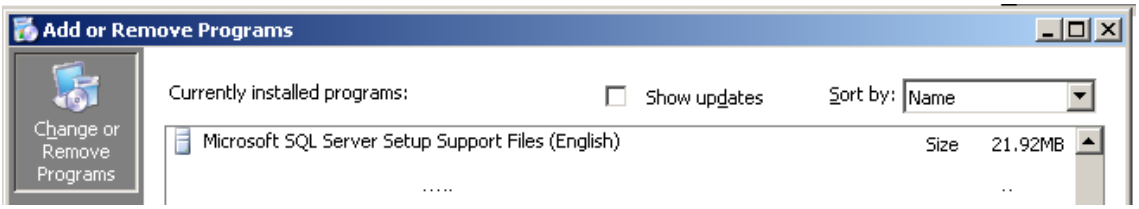


Figure II-28. Microsoft SQL Server Setup Support Files (English)

2) If "Microsoft SQL Server Setup Support Files" appears in the list of installed programs, skip to Step 3.d. If it does **not** appear, continue with the following steps:

a) Locate the file **SQLEXPR32.EXE** on the FOCIS-2008 installation CD (it will be in one of the folders under **DISK1\ISSetupPrerequisites**).

b) Copy this file to a directory on your computer.

c) Extract the contents of this compressed file.

d) In the extracted directory, double-click (i.e., Run) the **Servers\setup\sqlsupport.msi** file.

d. Uninstall Microsoft SQL Server 2005 and its components.

1) Open a Command Prompt window.

2) Copy and paste at the Command Prompt the following command (include the quotation marks): **"c:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\ARPWrapper.exe" /Remove** (as shown in Figure II-29).

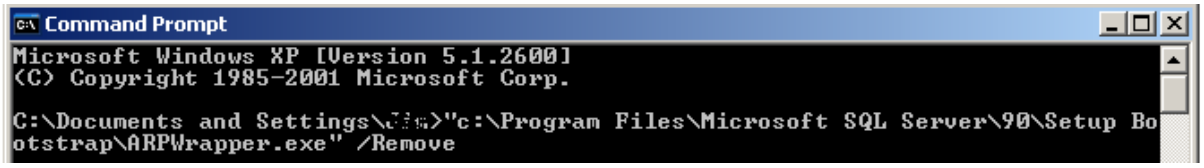


Figure II-29. Command Prompt Window

3) After pasting or typing this command, press the **Enter** key.

The Microsoft SQL Server 2005 Uninstall Component Selection window will appear (Figure II-30).

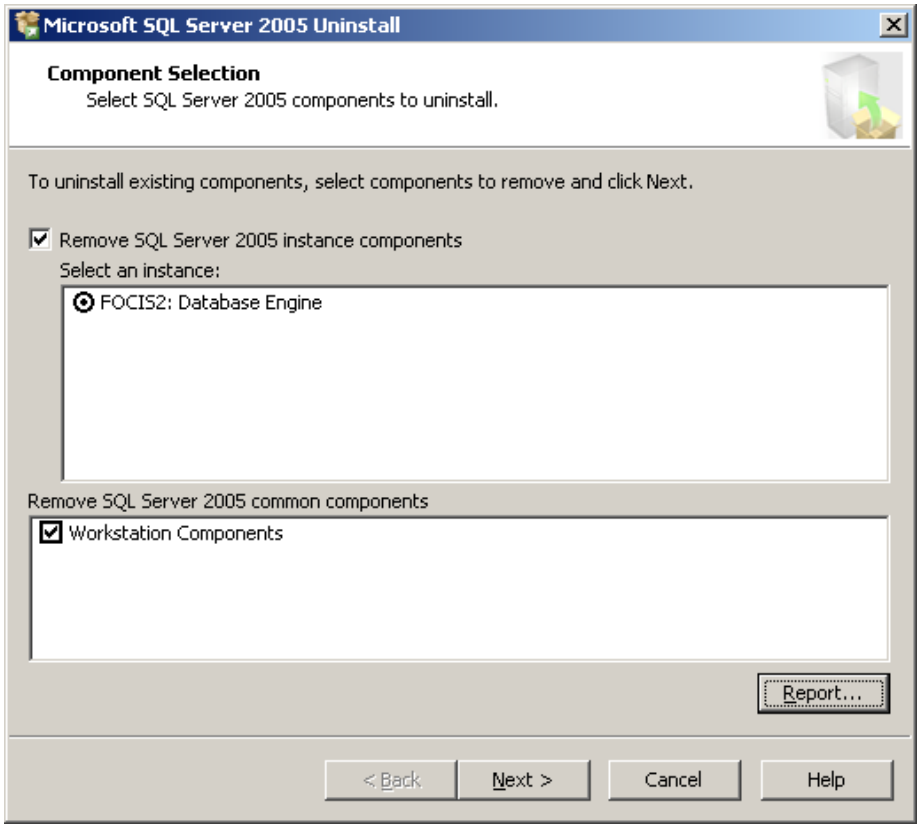


Figure II-30. Component Selection Window

4) Select the following options:

a) In the "Select an instance" box, select the **FOCIS2: Database Engine** radio button.

b) In the "Remove SQL Server 2005 common components" box, select the **Workstation Components** check box.

c) Click the **Next** button in this window and the **Finish** button in the next window that appears.

e. Remove SQL Server 2005 components.

1) Using the Control Panel **Add or Remove Programs** function, remove the SQL Server 2005 components listed below. If any component listed below does not appear in the **Add or Remove Programs** window, skip that item.

Note: After clicking **Remove** for some of the items listed below, you may see the message shown in Figure II-31. If so, click **OK** and continue.

Figure II-31. Add or Remove Programs Warning Message

- Microsoft SQL Server 2005 Backward Compatibility
- Microsoft SQL Server Management Studio Express
- Microsoft SQL Server Setup Support Files (English)
- Microsoft SQL Server Native Client
- Microsoft SQL Server VSS Writer
- MSXML 6.0 Parser
- SQLXML4

f. Remove SQL Server 2005 entries in the System Registry.

1) Click **Start > Run** on the Windows Desktop to open the Run window (Figure II-32).

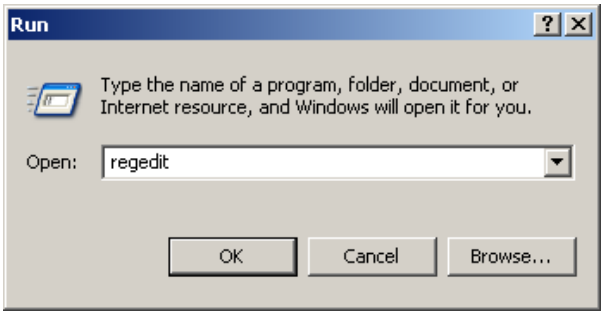


Figure II-32. Run Window

2) Open the Registry Editor by typing **regedit** in the Open field, as shown, and click the **OK** button.

The Registry Editor window will open (Figure II-33).

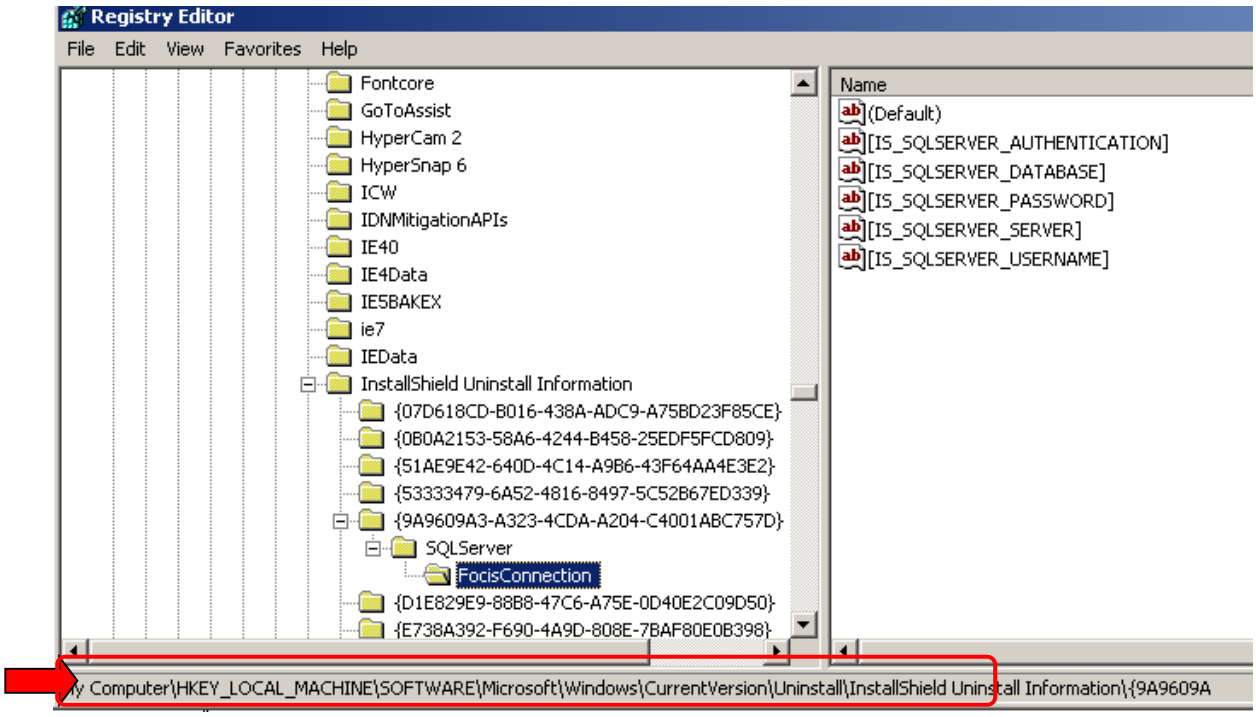


Figure II-33. Registry Editor Window

3) Locate the following Registry key: **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall** (as shown by the red arrow in Figure II-33).

4) Find and delete any of the following folders under the **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall** key:

- Microsoft SQL Server 2005
- Microsoft SQL Server 2005 Analysis Services
- Microsoft SQL Server 2005 Reporting Services
- Microsoft SQL Server 2005 Notification Services
- Microsoft SQL Server 2005 Integration Services
- Microsoft SQL Server 2005 Tools
- Microsoft SQL Server 2005 Books Online

a) An easy way to look for these folders is to right-click on the **Uninstall** folder and select the **Find** function (Figure II-34). Enter "**Microsoft SQL Server 2005**" as the text to find and click the **Find Next** button.

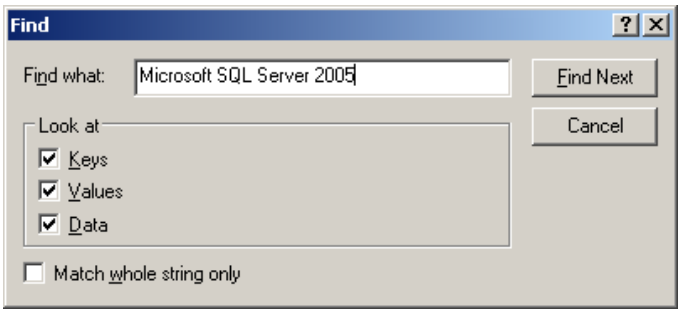


Figure II-34. Find Window in the Registry Editor

b) The **Find** function will find each occurrence starting at the top of the Registry. Each time it finds an entry, it shows the full path of the folder. It is important that you are looking only for places where Microsoft SQL Server 2005 appears in the **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall** directory.

c) The red arrow to the left of Figure II-35 shows where you can view the full path of the item that is found.

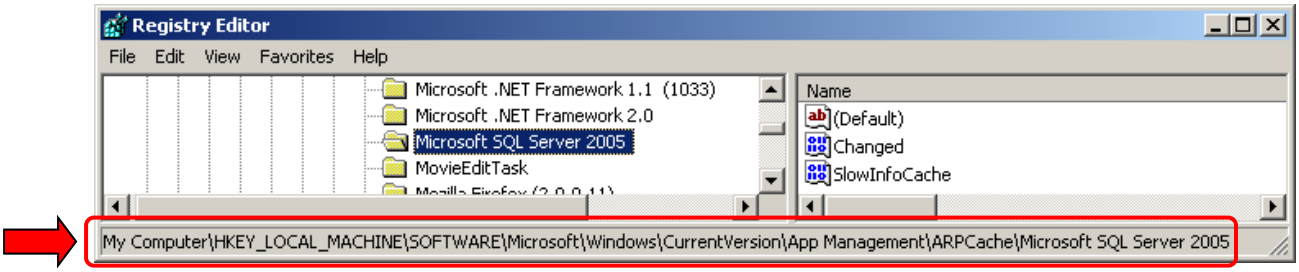


Figure II-35. Full Path Indicator on Registry Editor Window

- In the left pane, click each Globally Unique Identifier (GUID) (folder name). For each GUID that you click, look for a display name in the right pane that includes "Microsoft SQL Server 2005."
- When you see a display name that includes "Microsoft SQL Server 2005," note the GUID that you clicked in the left pane.
- For each GUID that you noted, run the following command at the Command Prompt: **start /wait msiexec /x {GUID} /l*v c:\sql_uninstall.log** (Note: In this command, replace “GUID” with the specific GUID that you noted in the previous step.)

g. Delete the following Registry entries, if either exists:

- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQL$FOCIS2
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLServerADHelper

h. Delete the following Registry entries (SQL Configuration) (such as the one shown in Figure II-36), if any of them exists:

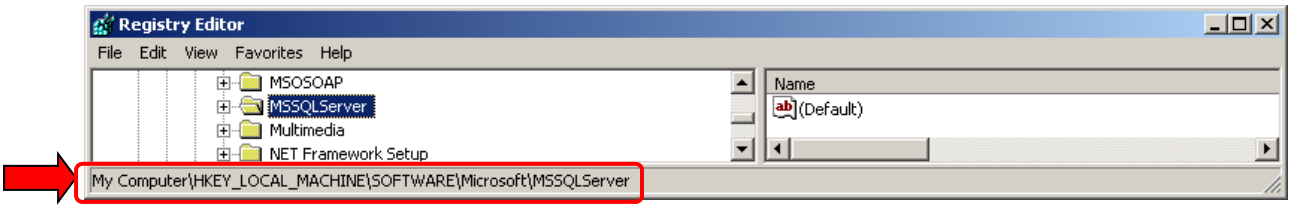


Figure II-36. Registry Editor – Entry to Delete

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer
- HKEY_LOCAL_MACHINE\Software\Microsoft\Microsoft SQL Server
- HKEY_LOCAL_MACHINE\Software\Microsoft\Microsoft SQL Server 2005 Redist
- HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432node\Microsoft\MSSQLServer
- HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432node\Microsoft\Microsoft SQL Server

i. Delete the **C:\Program Files\Microsoft SQL Server** directory. Use the Windows Explorer, as shown in Figure II-37, to find and remove the Microsoft SQL Server directory and subdirectories.

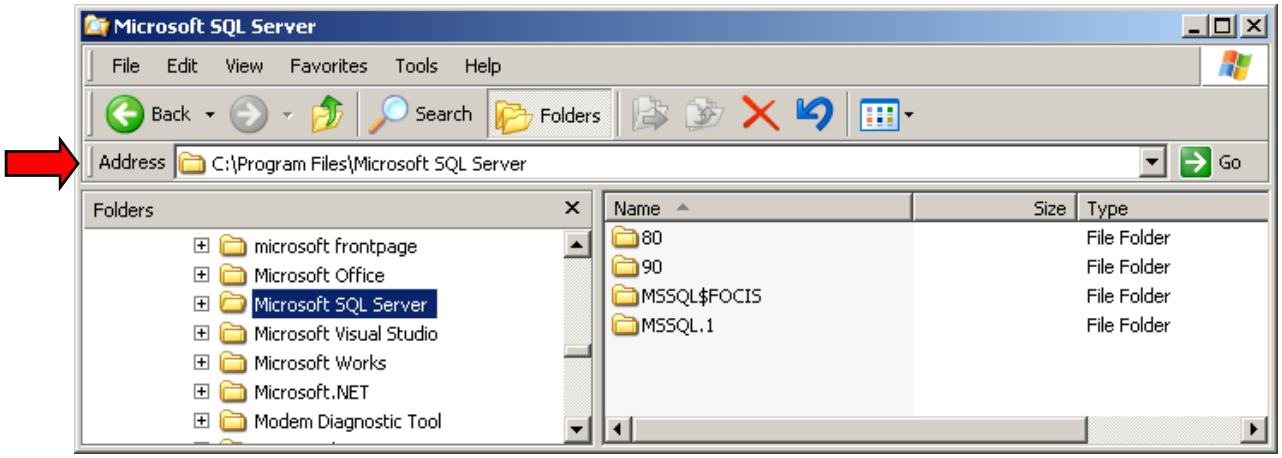


Figure II-37. Microsoft SQL Server Directory

Note: If you installed a 32-bit version of SQL on a 64-bit version of Windows, you will need to also delete them from the 32-bit Program Files folder (C:\Program Files (x86)\Microsoft SQL Server).

j. Reboot the computer.

k. Turn off anti-virus software.

l. Reinstall FOCIS1.

1) Follow the FOCIS1 install procedure, making sure to reboot after installation is complete.

2) Run the **RunApps.Exe** file.

m. Turn off anti-virus software.

n. Reinstall FOCIS2.

Appendix III.
Using FOCIS on a Network

Introduction

The instructions in this appendix describe the steps you need to follow to connect and use FOCIS in a network environment so that multiple users can access the same Position databases. When multiple users are connected to the same FOCIS PC, each user can work with any of the database Positions on that FOCIS installation. Multiple users can simultaneously work with a single database Position or each can work with a different database. Instructions for enabling FOCIS use on a network are given in Chapter 8, Utilities (Administrator Tools/System Settings/Network Settings). After a FOCIS installation has been configured to work with a network, users choose whether to use their local databases or one of the remote network server databases when they log in to FOCIS through their choice of a "Server" on the login screen (Figure III-1). After logging in, users can only choose a different server (including using their own local server's databases) by logging out and logging back in with a new Server selection. This appendix provides instructions for setting up a FOCIS PC that will be used as a remote server.

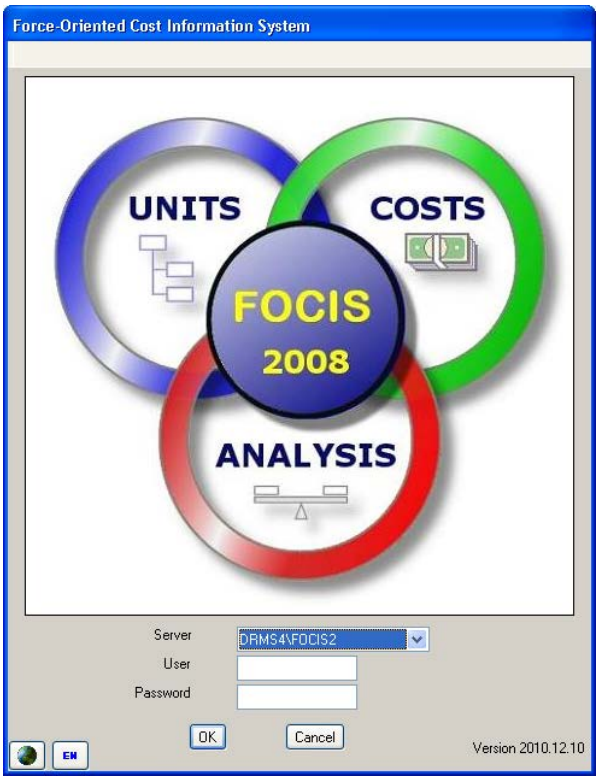


Figure III-1. Login Screen

FOCIS-2008 Network Setup

Network Setup

On a small network with simple security setup, users can configure network access from the Network tab on the System Settings window (accessed by clicking **Utilities\Administrator Tools\System Settings** on the Utilities menu) in FOCIS (See Chapter 8). In many cases, this will be all that is needed to establish network access. On a more complicated network, on a network with security settings, or if the FOCIS System Settings setup process does not work, additional settings must be made in the following areas:

- SQL Server Protocols

- SQL Server Remote Connection Settings
- SQL Server Exceptions in the Windows Firewall

SQL Server Protocols

Take the following steps to enable the SQL Server Protocols:

1. Click **Start > Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager** on the Windows Desktop (Figure III-2).

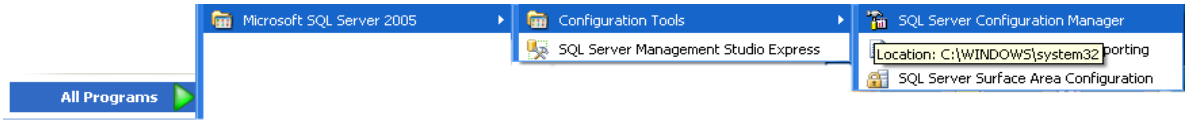


Figure III-2. Command String for SQL Server Configuration Manager

The SQL Server Configuration Manager window opens (Figure III-3).

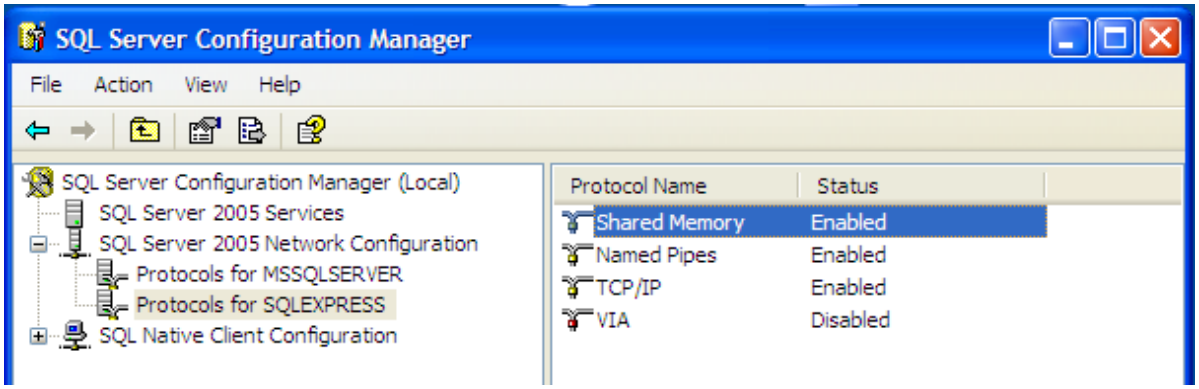


Figure III-3. SQL Server Configuration Manager Window

2. Verify that the status of the three Protocols listed below is "Enabled":
   - Shared Memory
   - Named Pipes
   - TCP/IP
3. If any of these Protocols is **not** enabled, reset the Protocol as follows:
   a. Right-click on the Protocol Name (e.g., Shared Memory)
   b. Select **Properties** from the shortcut menu.
   c. Choose **Yes** next to "Enabled" and click **OK** (Figure III-4).

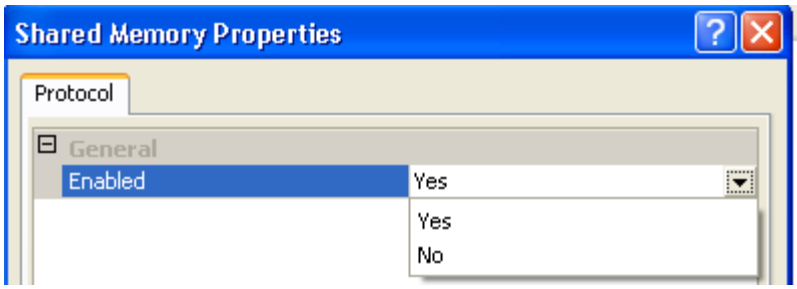


Figure III-4. Protocol Properties Window

4. Click **File > Exit** on the menu to close the Configuration Manager window.

SQL Server Remote Connection Settings

Take the following steps to verify the Remote Connection settings:

5. Click **Start > Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Surface Area Configuration** on the Windows Desktop (Figure III-5).

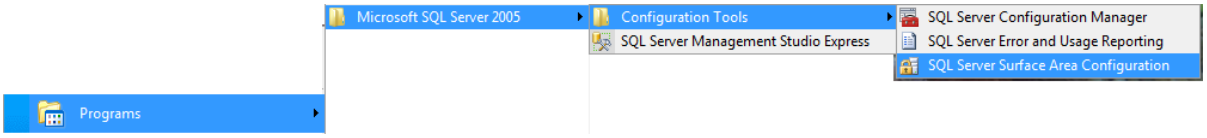


Figure III-5. Command String for SQL Server Surface Area Configuration

The SQL Server 2005 Surface Area Configuration window opens (Figure III-6).

Figure III-6. SQL Server 2005 Surface Area Configuration Window

6. Click on **Surface Area Configuration for Services and Connection** link as shown in Figure III-6.

   The Surface Area Configuration for Services and Connections – localhost window opens (Figure III-7).

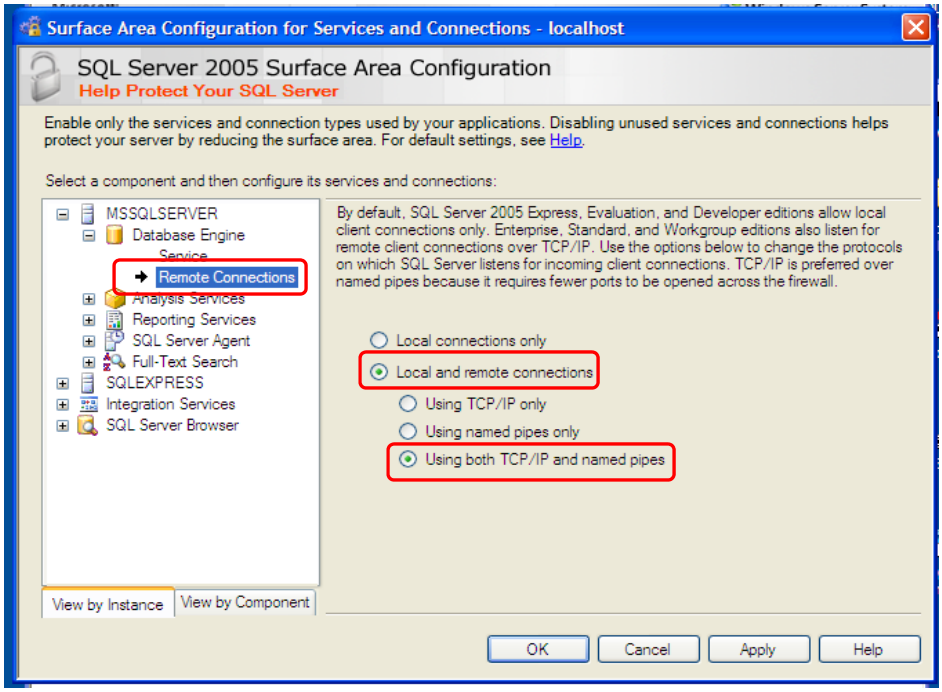


Figure III-7. Surface Area Configuration for Services and Connections – localhost Window

7. In the navigation (left) pane, click on the Remote Connections item as shown in Figure III-7.
8. In the right pane, make sure the "Local and remote connections" and "Using both TCP/IP and named pipes" options are selected.
9. Click **OK** to close the window.

SQL Server Exceptions in the Windows Firewall

Take the following steps to verify the list of exceptions in Windows Firewall:

1. Click **Start > Settings > Control Panel** on the Windows Desktop.

   The Control Panel window opens (Figure III-8).

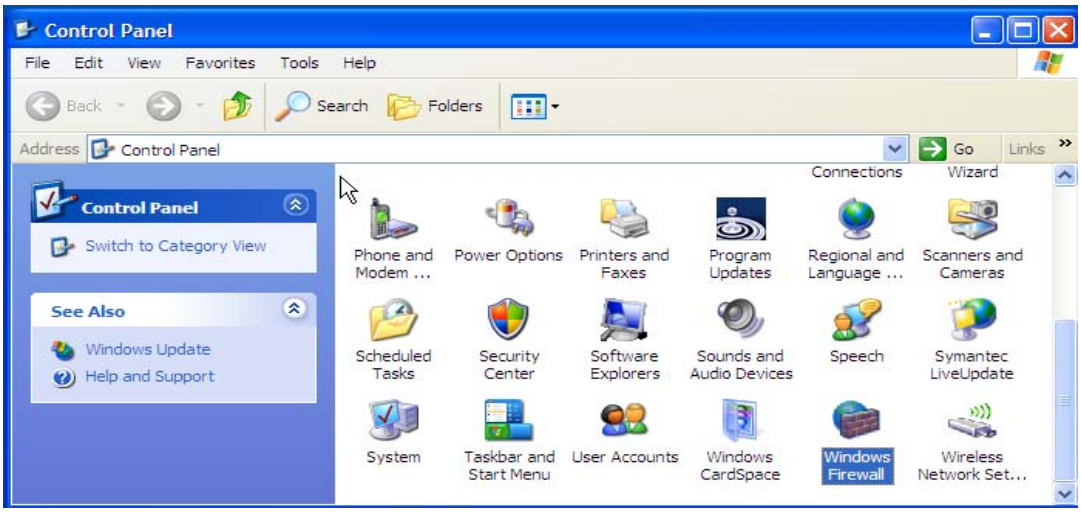


Figure III-8. Control Panel Window

2. In the Control Panel, double-click the **Windows Firewall** icon to open the Windows Firewall window.

3. Open the Exceptions tab (Figure III-9).

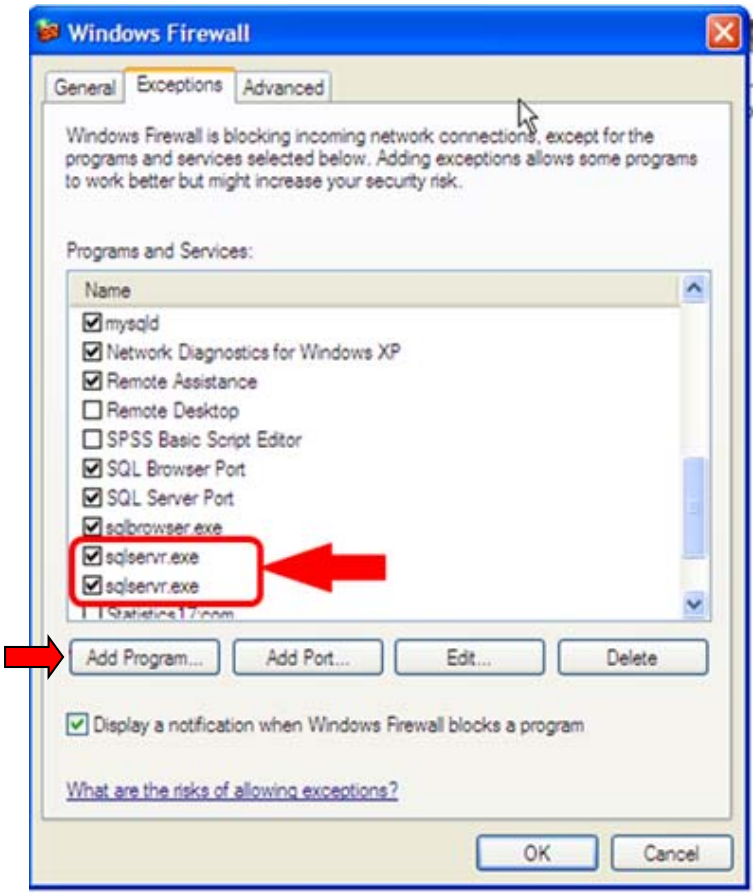


Figure III-9. Windows Firewall Window (Exceptions Tab)

4. Check to see if the items listed below are in the list of Exceptions:
   - sqlservr.exe
   - sqlbrowser.exe
5. If they do **not** appear, add them to the list as follows:
   a. Click the **Add Program** button.

      The Add a Program window opens (Figure III-10).

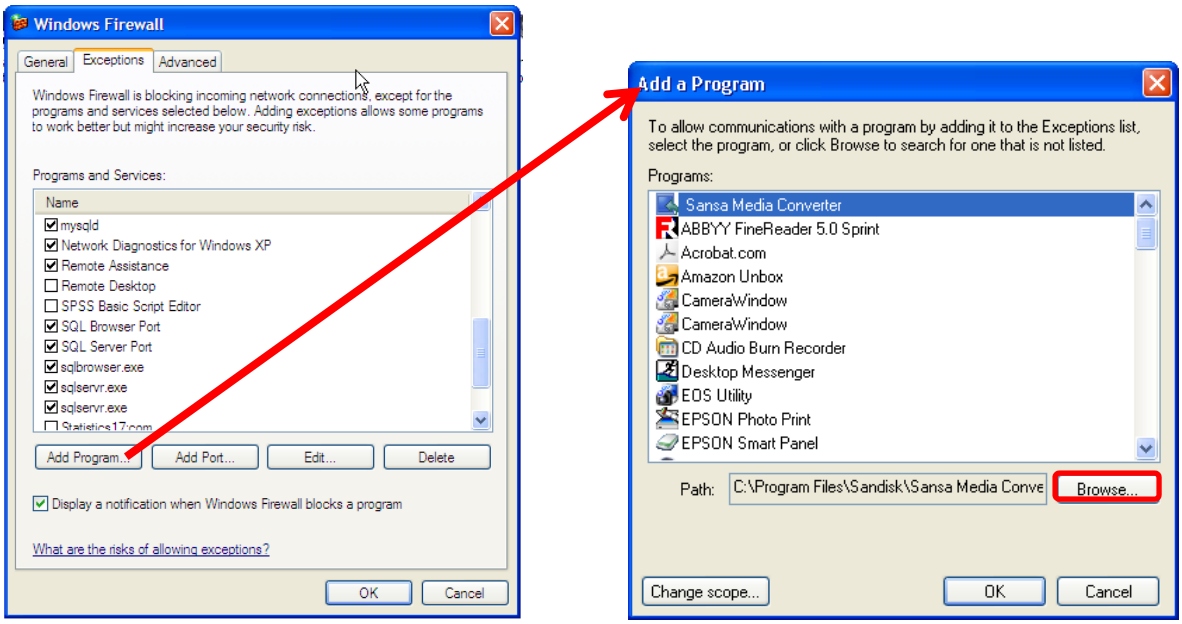


Figure III-10. Add a Program Window

   b. Click the **Browse** button to open the Browse window (Figure III-11).

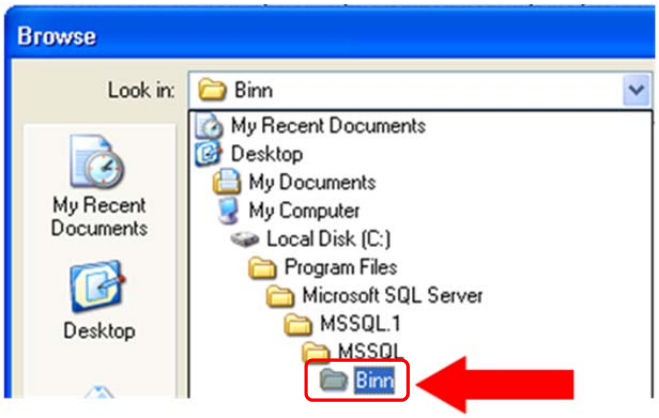


Figure III-11. Microsoft SQL Server\MSSQL.1\MSSQL\Binn Folder

   c. Navigate to the **Microsoft SQL Server\MSSQL.1\Binn** folder.
   d. Select the **sqlservr.exe** file (Figure III-12) and click **Open** to return to the Add a Program window (Figure III-13).

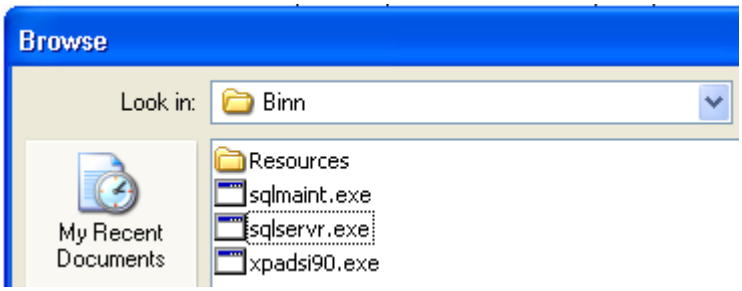


Figure III-12. sqlservr.exe File

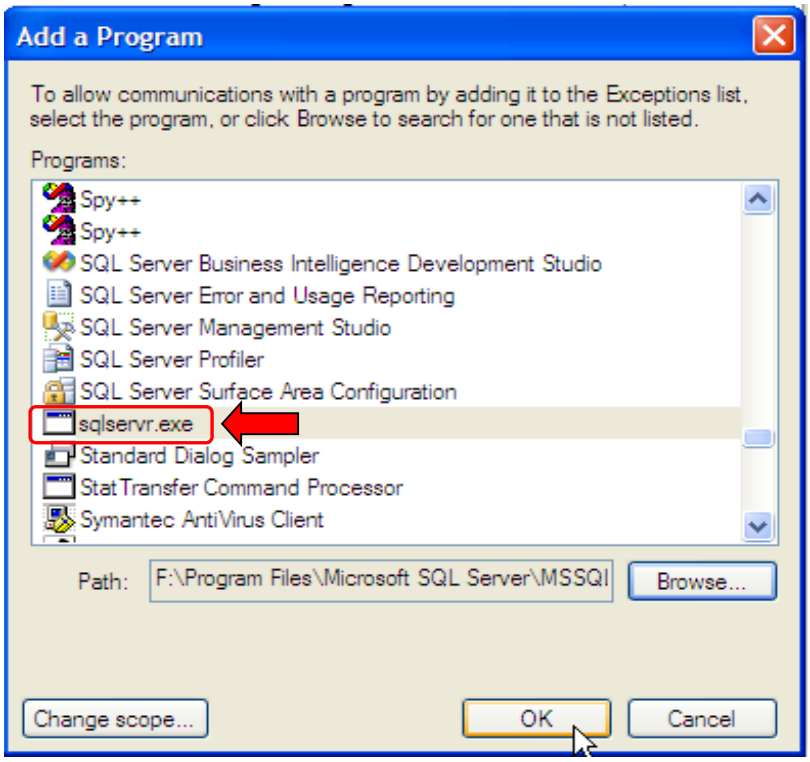


Figure III-13. Add a Program Window with sqlservr.exe File Displayed

e. Click **OK** to return to the Windows Firewall window.

f. Click the **Add Program** button on the Exceptions tab of the Windows Firewall window again and navigate to the **Microsoft SQL Server\90\Shared** folder as shown in Figure III-14 (similar to the previous steps used to add **sqlservr.exe**).

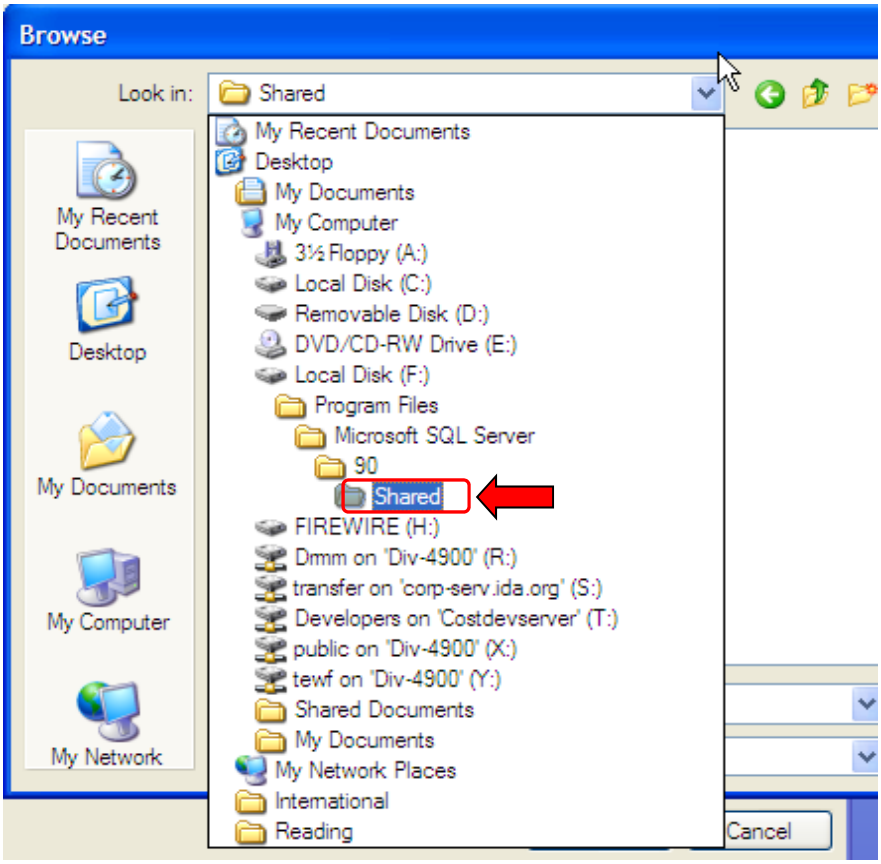


Figure III-14. Microsoft SQL Server\90\Shared Folder

g. Select the **sqlbrowser.exe** file and click **Open** (Figure III-15) to return to the Add a Program window.

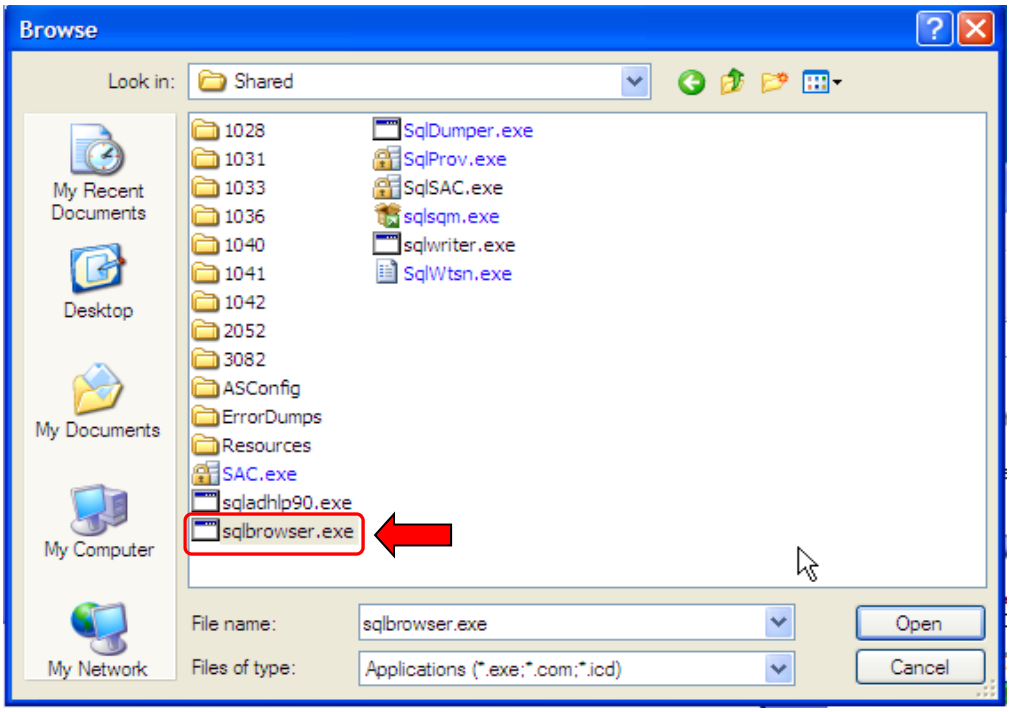


Figure III-15. sqlbrowser.exe File

h. On the Add a Program window, click **OK** to return to the Windows Firewall window (Figure III-16).

   If the Windows Firewall Exceptions are set correctly, the exceptions should now include **sqlbrowser.exe** and **sqlservr.exe**, as shown.

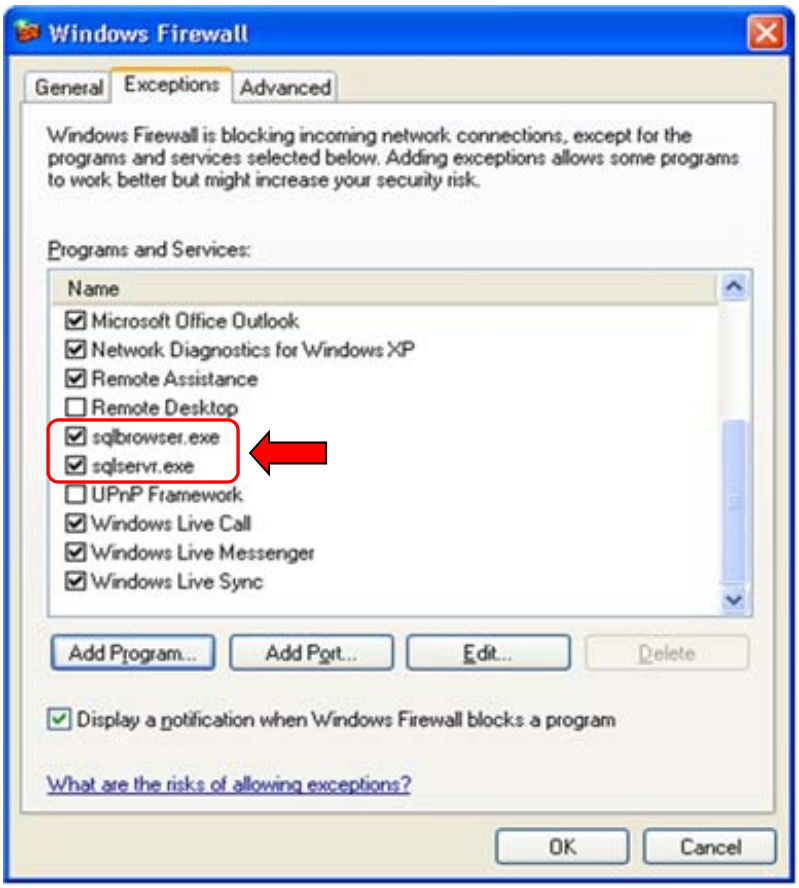


Figure III-16. sqlbrowser.exe and sqlservr.exe Files Now Included in Exceptions List

i. Click **OK**.
j. Close Windows Firewall and Control Panel windows and reboot the computer.

Using FOCIS on a Network

Network Basics

Figure III-17 displays a typical network.

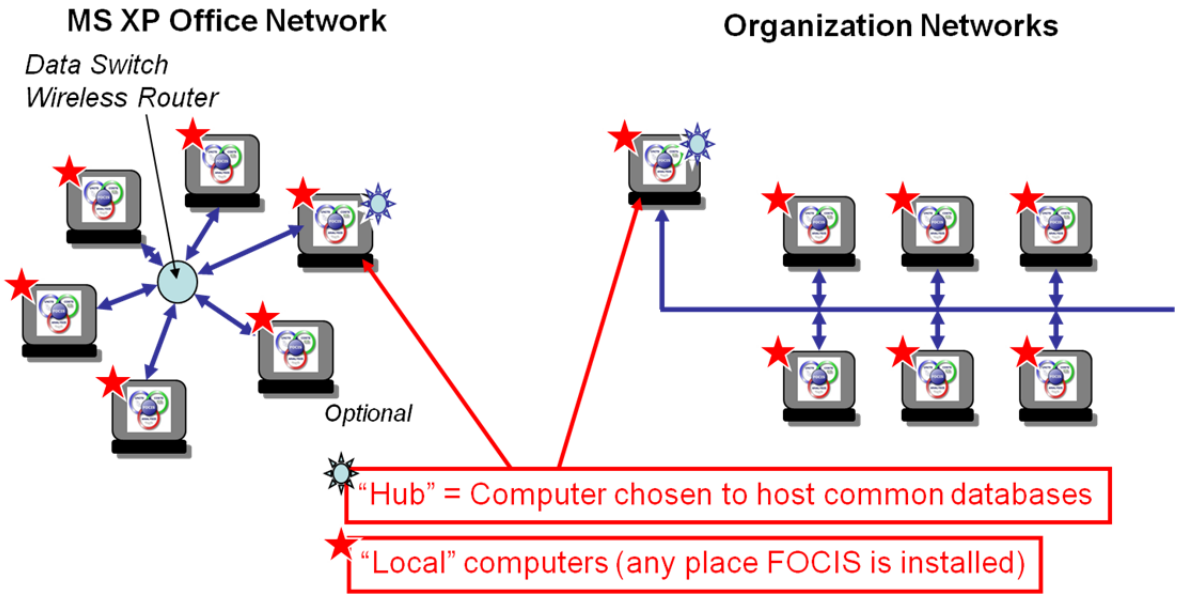


Figure III-17. FOCIS on a Network

When you log on to FOCIS, you choose a Server (i.e., "Local" or another enabled computer). You then select a Position to work with, from the Positions available on the Server you chose when logging on.

Setting Up a FOCIS Network

Take the following steps to set up a FOCIS network:

1. Install FOCIS on all computers where FOCIS will be used (including the one that will be used as the Hub).

   Note: Make sure you are using a Sept 2007 or later version of FOCIS.

2. Choose the computer to be the Hub.
   a. Open the FOCIS Utilities Work Area.
   b. Choose Administrator Tools/System Settings.
   c. Click on the Network tab (Figure III-18).

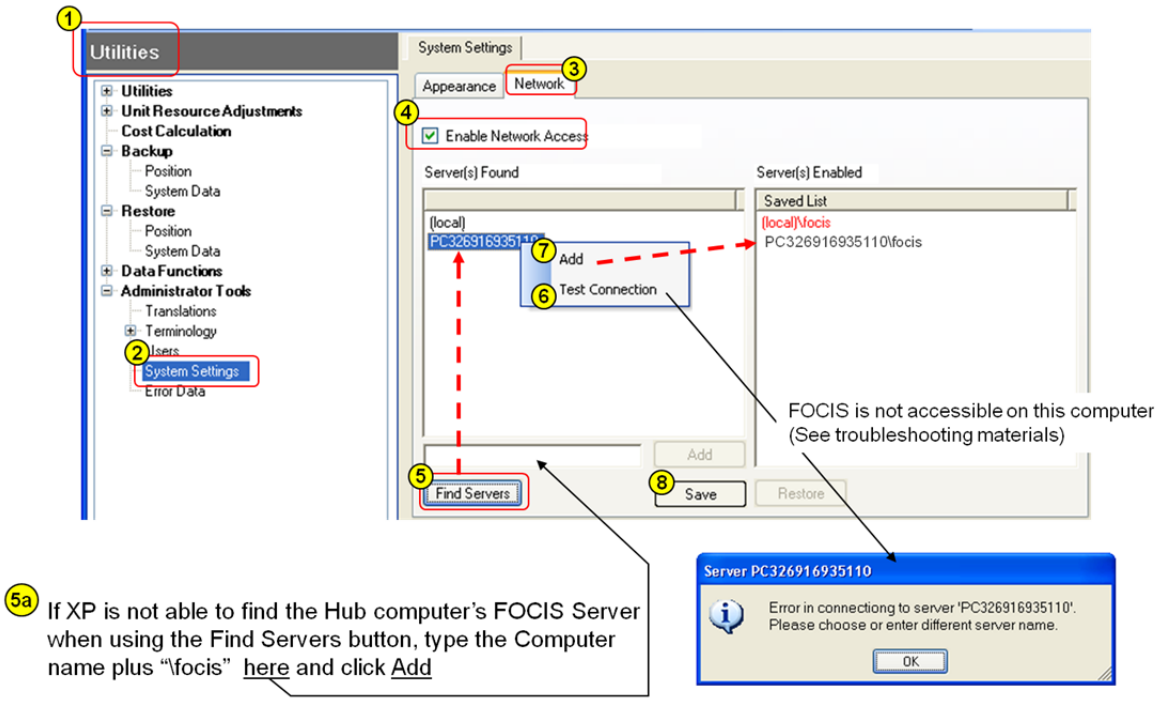


Figure III-18. Utilities Work Area – System Settings Window (Network Tab)

d. Select the **Enable Network Access** check box.

e. Click the **Find Servers** button to identify other computers on the network.

   Any Servers found will appear in the Server(s) Found list box.

   1) If "\focis" does not appear as part of a Server name, there is a firewall set up on the Hub computer that will block access to the FOCIS data.

   2) Fix the firewall problem before proceeding (see later note about overcoming firewalls).

f. Right-click on the Hub Server and select **Test Connection** from the shortcut menu.

   If successful, a "Test connection succeeded" message appears.

   Note: Troubleshoot any problems before proceeding.

g. Right-click on the Server name and select **Add** on the shortcut menu.

   The Server name will appear in the Server(s) Enabled list box.

h. Click the **Save** button.

3. Click **File > LogOut** on the menu, then sign in using the Hub computer (Figure III-19).

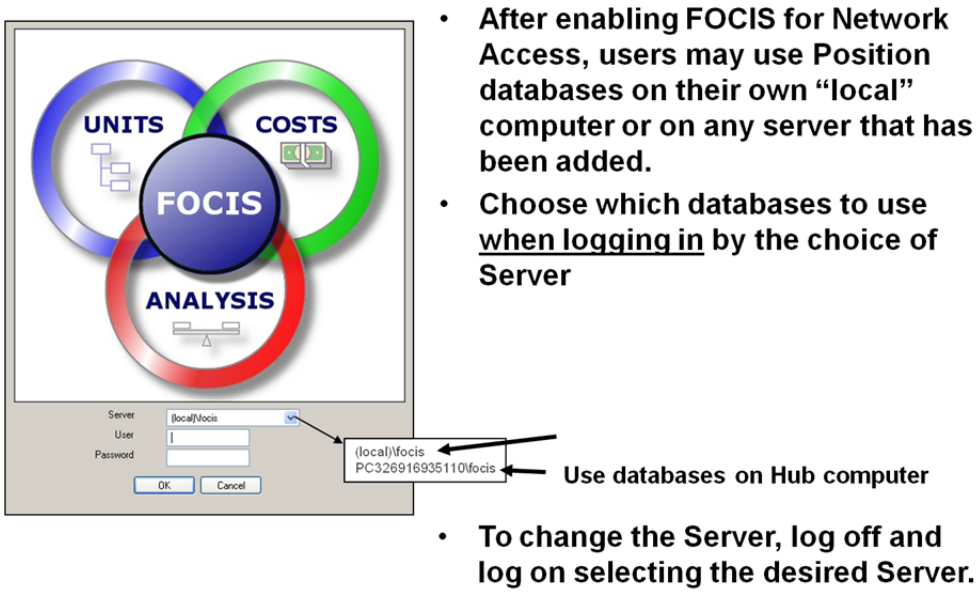


Figure III-19. Using FOCIS after Enabling Network Access

Effects of Server Choice on Data Used

Table III-1. Data Types and Server Choices

Data Type	FOCIS Database	Server Chosen (local)\focis	Server Chosen "Hub"\focis
User Name	System	local	Hub
User Password	System	local	Hub
User Permissions	System	local	Hub
Terminology	System	local	Hub
Reports	System	local	Hub
Setup, Organization, Unit Resource, Cost, or Analysis Model Data	Position	local	Hub(1)

(1) The Position used by each user is the one chosen individually by each user – even if the Hub Server has been chosen.

Multiple Position databases can be in use at the same time on the Hub computer

Managing FOCIS Use on a Network

A System Administrator should be designated for any FOCIS computer that is going to be used as a Hub computer. The System Administrator has the following duties:

1. Control the following access information:
   - The users added and all new users' initial passwords.
   - User permissions

Note 1: Very few users should have the System Administrator permission on a "Hub" FOCIS installation.

Note 2: Remove the system default user ("global") or change its password.

2. Set up other computers to enable the Hub computer Server (see previous charts).
3. Create official Position databases for use by other network users.
   a. Use Position names that clearly identify the data.
   b. Communicate changes in the current Official database Position.
   c. Lock the database when appropriate.
4. Make regular backups of official Position databases.
5. Set up the Hub computer so network users can save backups and exports.
   a. Use Windows Explorer to find the **FOCIS** folder (Figure III-20).

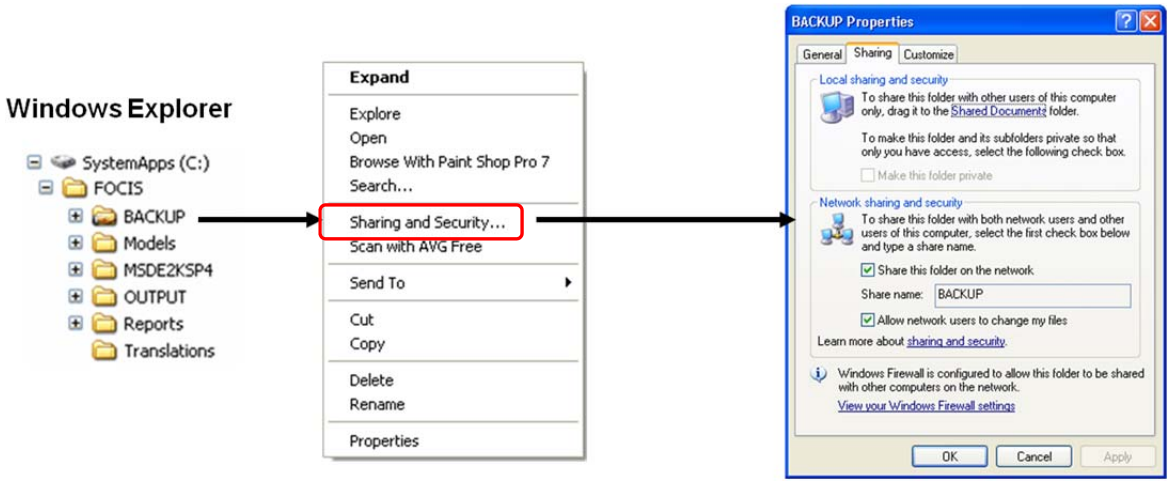


Figure III-20. Navigation from Windows Explorer to Backup Properties Window

   b. Right-click on the **BACKUP** folder and choose the **Sharing and Security** option from the shortcut menu.
   c. Select the options that enable sharing, including the option that allows users to change Hub files and click **OK**.
   d. Repeat these steps for the **Models**, **OUTPUT**, and **Reports** folders.

Troubleshooting FOCIS Network Problems

Cannot Find the Hub Computer When Using "Find Servers"

Take the following steps to find the Hub computer using the **Find Servers** button on the Network tab of the System Settings window:

1. Make sure you know the computer name of the Hub computer.

a. Right-click on the “My Computer” icon on the Windows Desktop or within Windows Explorer and select **Properties** from the shortcut menu.

b. Click on the Computer Name tab on the System Properties window (Figure III-21).

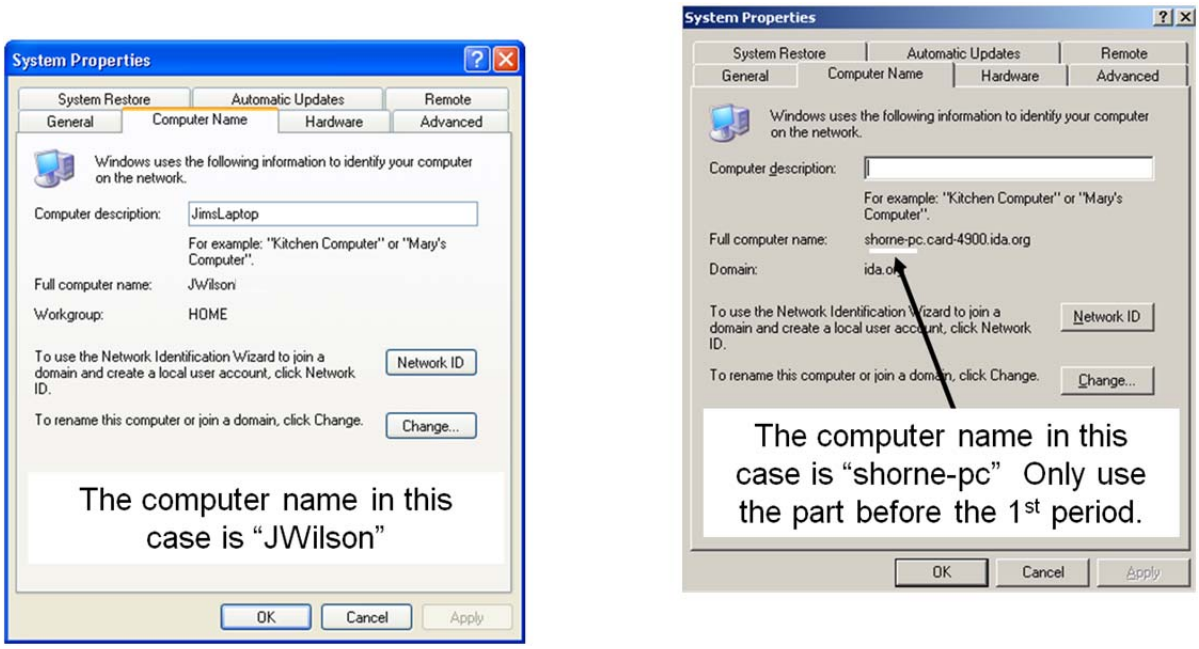


Figure III-21. System Properties Windows

c. On the computer that is being connected to the Hub, use Windows Explorer to ensure that the Hub computer is accessible as a network connection:

1) Find and click on **My Network Places > Entire Network**.

   The Workgroup where the Hub exists should list the name of the Hub computer.

2) If the Hub computer cannot be seen, work with the local IT personnel to place the Hub computer on the network.

3) If the Hub computer **can** be seen but its name does not show after clicking the **Find Servers** button on the Network tab of the Utilities/System Settings window:

   a) Using the name of the Hub, type the name in the text entry area to the left of the **Add** button and click **Add** (Figure III-22) to add the Hub computer to the Server(s) Enabled Saved List box.

   b) Right-click on the name of the Hub in the Saved List box and select **Test Connection** on the shortcut menu as shown to verify that access has been established.

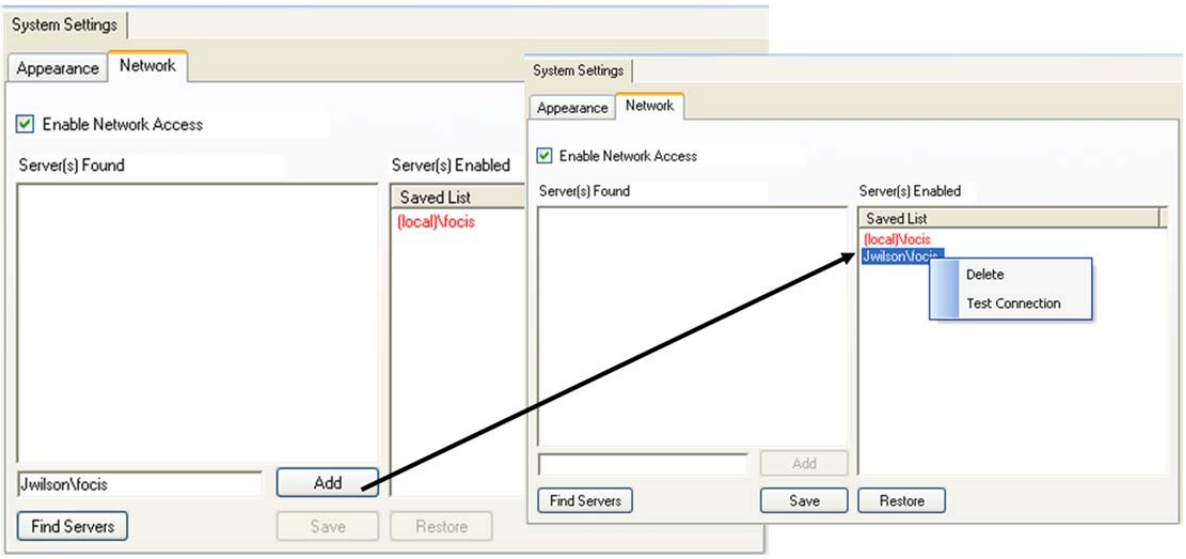


Figure III-22. Locating and Saving Hub Server Name

The Hub Computer Name Does Not Include "\focis"

If the list in the Servers Found box on the Network tab of the System Settings window shows the Hub computer's name, but it does not end with **"\focis**" (Figure III-23), the Hub computer probably has a firewall set.

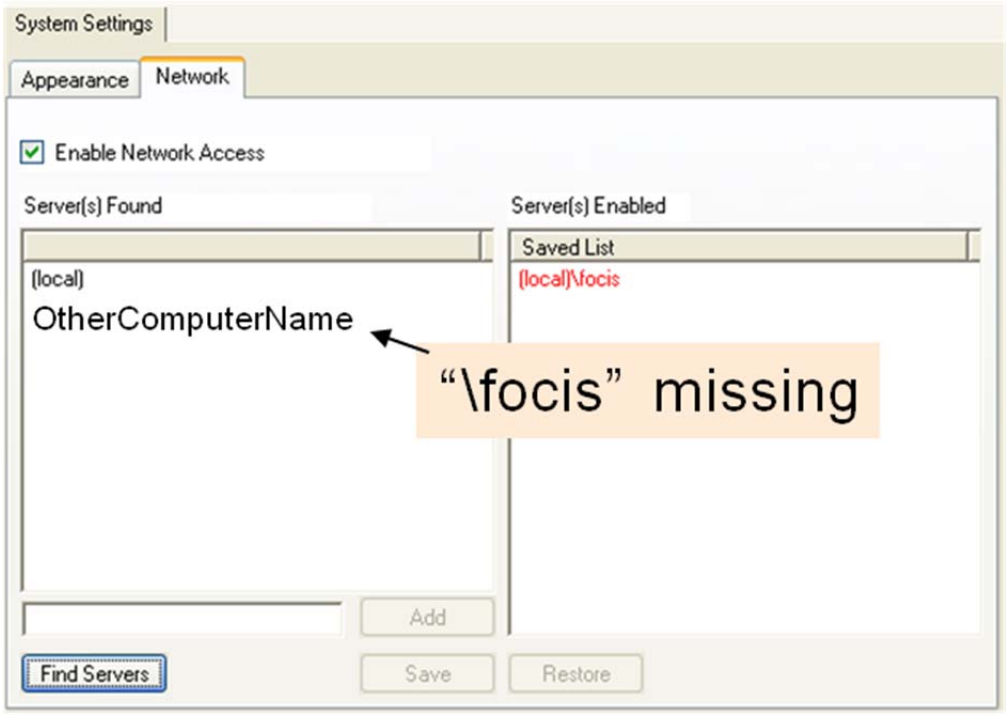


Figure III-23. Hub Computer Name Missing "\focis"

If you see this condition, the Hub computer's firewall can be adjusted to provide access to the FOCIS Database Server.

Take the following steps to add the FOCIS database as an authorized exception for Windows Firewall:

1. Click **Start > Settings > Control Panel** on the Windows Desktop to open the Control Panel window.
2. Click on the Windows Firewall icon. Note: In Windows 7, inside the Control Panel, click **Systems and Security > Windows Firewall**.

   The Windows Firewall window opens.
3. For Windows XP or Vista, go to Step 4. For Windows 7, go to Step 5.
4. On the Windows XP or Vista Firewall window:
   a. For Windows XP, make sure that the "Don't allow exceptions" check box on the General tab is **not** selected (Figure III-24).

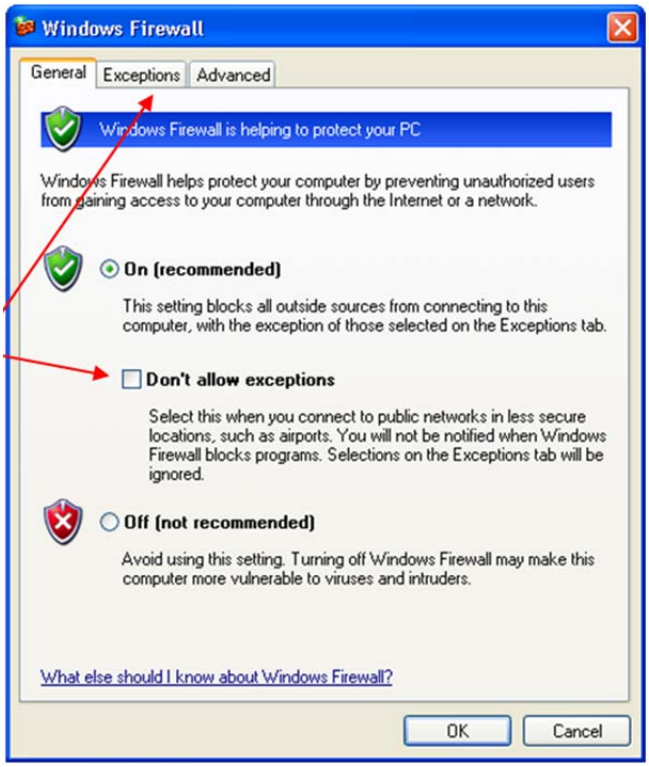


Figure III-24. Windows XP Windows Firewall Window (General Tab)

   b. For Windows Vista, make sure that the "Block all incoming connections" check box on the General tab is **not** selected.
   c. For Windows XP or Vista, click on the **Exceptions** tab.
   d. For Windows XP or Vista, click the **Add Program** button (Figure III-25).

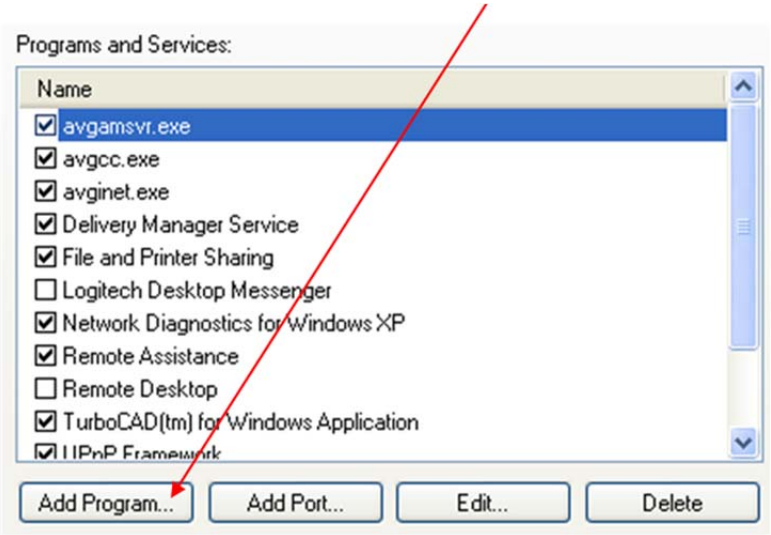


Figure III-25. List on Exceptions Tab

The Add a Program window opens.

e. Continue with Step 6.

5. On the Windows 7 Firewall window:

a. Click the "Allow a program through Windows Firewall" link (Figure III-26).

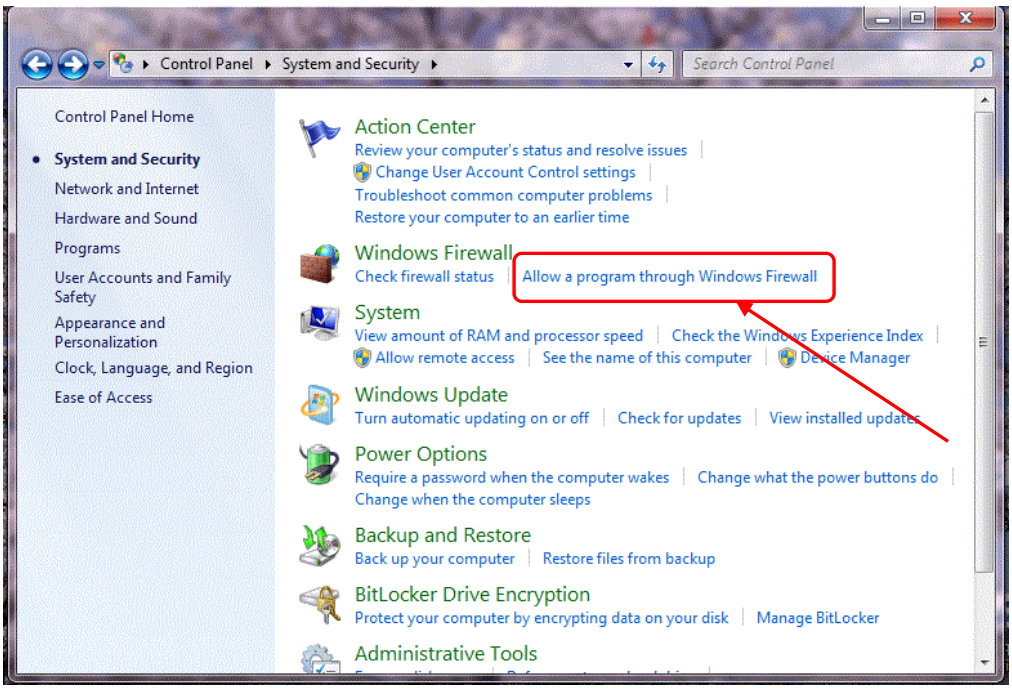


Figure III-26. Windows 7 Firewall Selection in Control Panel

The Programs and Services window opens.

b. Click the **Allow Another Program** button.

   The Add a Program window opens.

c. Continue with Step 6.

6. On the Add a Program window, click the **Browse** button to open the Browse window.
7. On the Browse window, navigate to the FOCIS database program (most likely located at **C:\Program Files\Microsoft SQL Server\MSSQL$FOCIS\Binn\sqlservr.exe**). (See sequence of windows in Figure III-27).

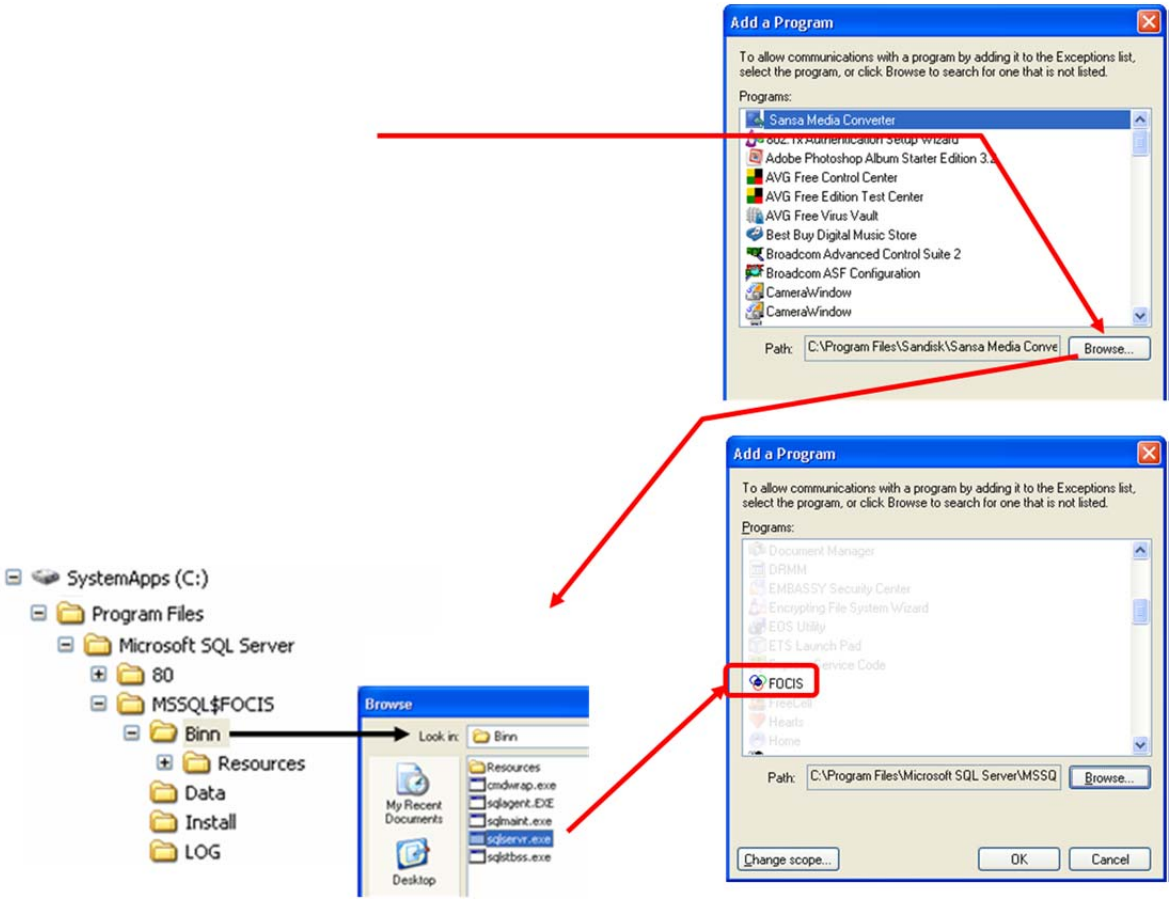


Figure III-27. Window Sequence for Adding sqlservr.exe to Exceptions List

8. On the Browse window, select **sqlservr.exe** and click the **Open** button to return to the Add a Program window.
9. On the Add a Program window, click **OK** to return to the Exceptions tab on the Windows Firewall window.
10. Click **OK** to close the Windows Firewall window.
11. Check that the FOCIS Server you just modified shows correctly on the Network tab of the FOCIS System Settings window.

If the above steps have been successful, you should now be able to use the **Find Servers** button and see the name of the Hub computer including "**\FOCIS**".

12. Right-click on the name of the Hub in the Saved List box and select **Test Connection** on the shortcut menu to verify that the connection was successful.

Errors When Backing Up or Exporting to Another Computer on the Network

Saving a copy of a backup or exporting data can cause an error when the data are being saved to a folder on another computer. The problem is easy to solve and requires that the Sharing properties of the folder on the other computer be set properly.

By default, when a folder on a computer is shared, its permissions are set to **Read Only**, so from a remote computer you can view data in this folder only, not copy or write data to it. This permission setting needs to be changed to allow you to write data to the folder.

Take the following steps to change the permissions to allow you to save a backup copy in a folder on another computer:

1. Make sure that you have **Write** permission to that folder. (In Figure III-28, the directory for which you would need **Write** permission is the **\\Toshiba\FOCIS\BACKUP** directory. This is the **FOCIS\BACKUP** directory on the "Toshiba" computer.)

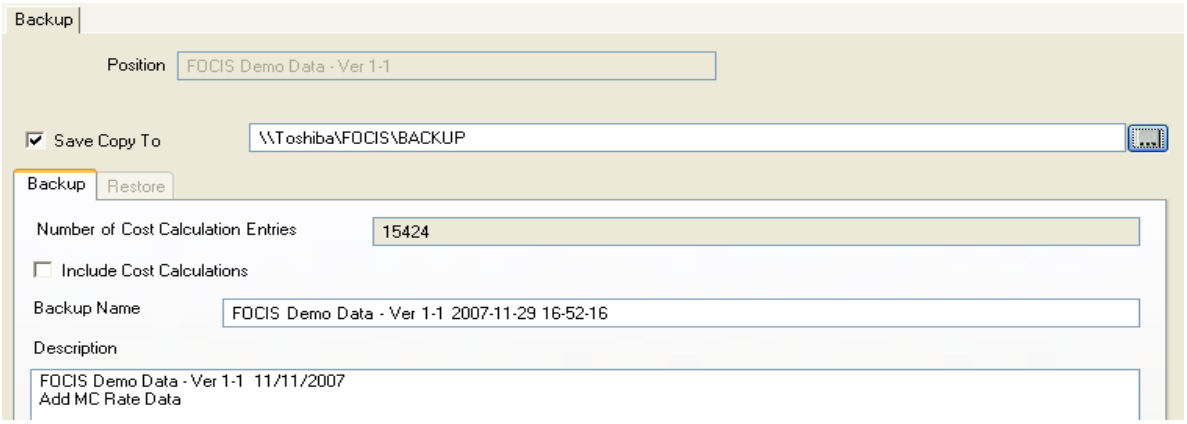


Figure III-28. Directory Specified for Saved Copy of Backup

Note: File Sharing can be set up two ways in XP. If setup in Windows Explorer (Click on **Tools > Folder Options**, then click on the View tab) is set to "Use simple file sharing," continue with Step 2. Otherwise, skip to Step 3.

2. To use simple file sharing:
   a. On the Toshiba PC, navigate to the **C:\FOCIS\BACKUP** folder.
   b. Right-click on the Backup folder and select **Sharing and Security** from the shortcut menu.

c. Click on the Sharing tab (Figure III-29).

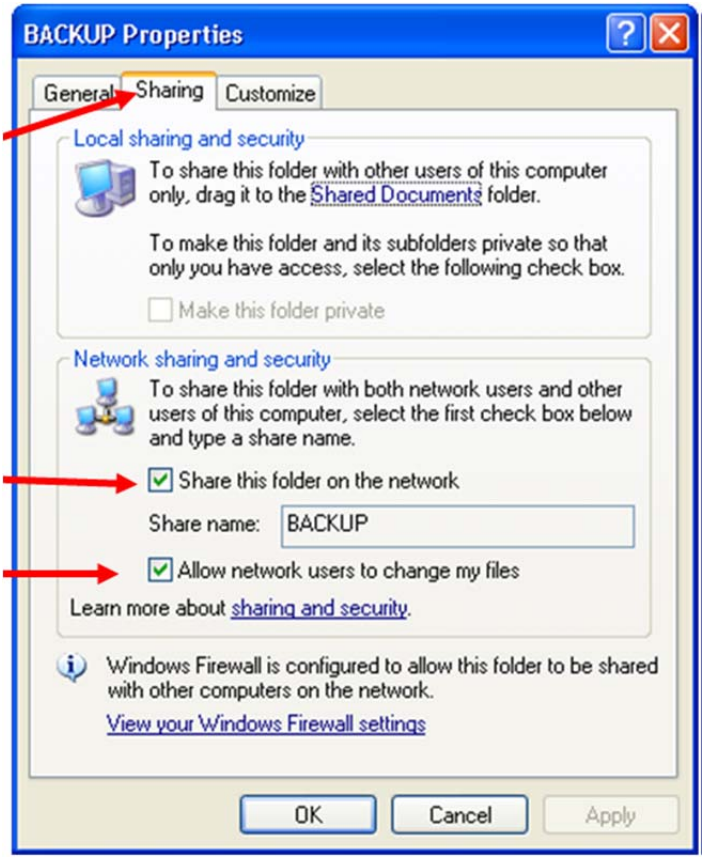


Figure III-29. Properties Window (Sharing Tab)

d. Make sure the **Share this folder on the network** check box is selected.

e. Make sure the **Allow network users to change my files** check box is selected.

f. If there is a **Permissions** button, click it to open the Permissions window (Figure III-30).

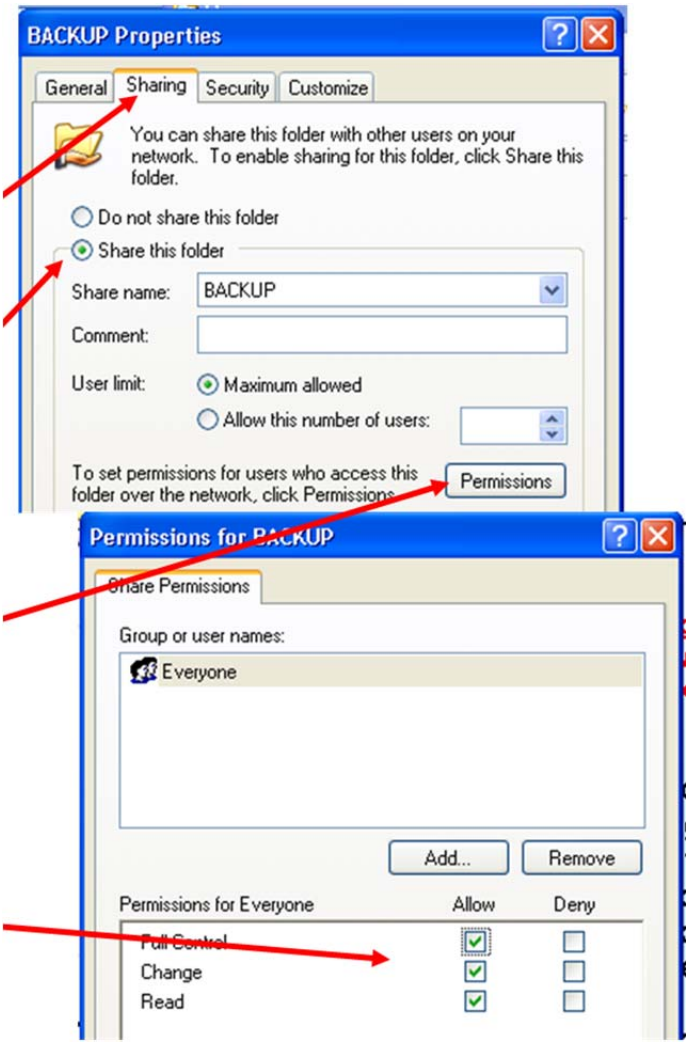


Figure III-30. Permissions Window

1) Select **Everyone** in the "Group or user names" box.
2) In the "Permissions for Everyone" box, make sure that check boxes under the "Allow" column for **Full Control**, **Change**, and **Read** are selected.
3) Click the **Apply** button, then click **OK** on the Permissions window.
4) Click **OK** on the Properties window.

3. If "Use simple file sharing" is not set up, use the following procedures:
   a. On the Toshiba PC, navigate to the **C:\FOCIS\BACKUP** folder.
   b. Right-click on the Backup folder and select **Sharing and Security** from the shortcut menu.
   c. Click on the Sharing tab.
   d. Make sure the **Share this folder** option is selected.

e. Click the **Permissions** button to open the Permissions window.

   1) Select **Everyone** in the "Group or user names" box.

   2) In the "Permissions for Everyone" box, make sure that check boxes under the "Allow" column for **Full Control**, **Change**, and **Read** are selected.

   3) Click the **Apply** button, then click **OK** on the Permissions window.

   4) Click **OK** on the Properties window.

Appendix IV.
Adding a Second Language to FOCIS

Note: There are some variations in exactly how each operating system installation handles the addition and removal of languages. The following instructions explain how to accomplish these actions using Windows XP Professional (SP2) and Windows 7. If your windows and dialog boxes appear to be different, use the Help function of your operating system.

All text data entries and field labels in FOCIS can be entered using any language supported by your Microsoft operating system. This ability allows you to operate FOCIS in your own language.

Microsoft XP Professional

Take the following steps to add additional languages:

1. Click **Start > Control Panel** on the Windows Desktop and select **Regional and Language Options** to display the **Regional and Language Options** window.
2. Select the Languages tab (Figure IV-1).

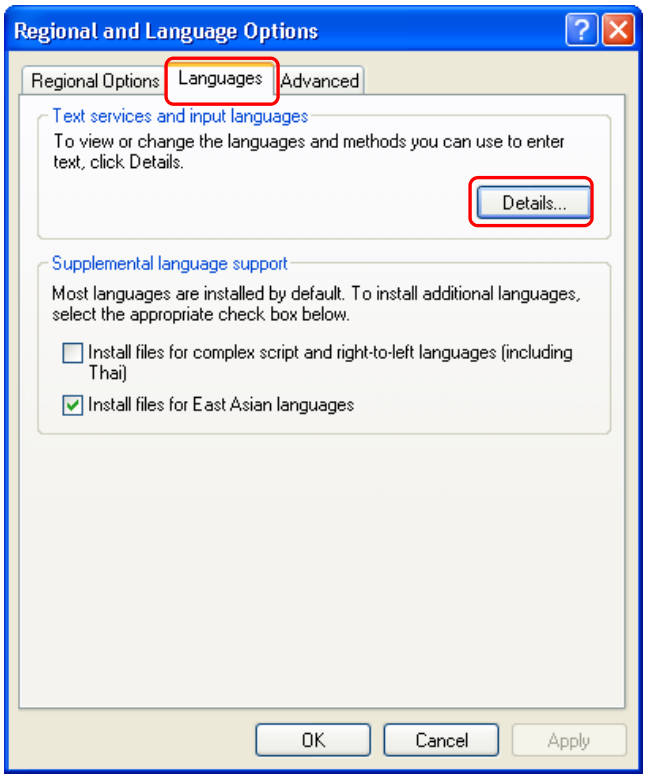


Figure IV-1. Regional and Language Options Window (Languages Tab)

3. Click the **Details** button.

The Text Services and Input Languages window opens (Figure IV-2).

4. Click the **Add** button.

   The Add Input Language window opens (Figure IV-3).

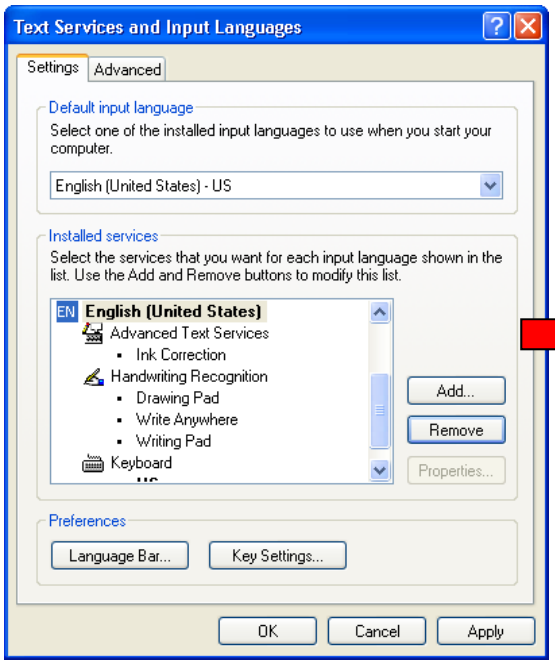


Figure IV-2. Text Services and Input Languages Window

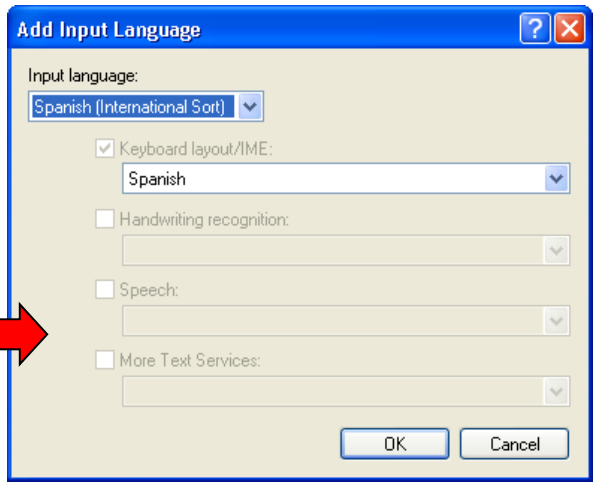


Figure IV-3. Add Input Language Window

5. Select a language from the drop-down in the Input language field.
6. Click the **OK** button to return to the Text Services and Input Languages window.
7. Click the **OK** button on the Text Services and Input Languages window to return to the Regional and Language Options window.
8. Click the **OK** button to close the Regional and Language Options window and then close the Control Panel window.

If an additional language has been successfully added, the FOCIS language selector icon (Figure IV-4) will show the new language when clicked. You can now switch languages at any time, even while typing in the middle of a single entry.

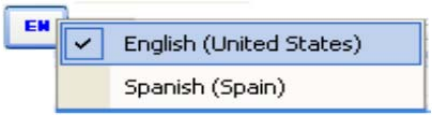


Figure IV-4. Language Selector Icon

Microsoft Windows 7

Take the following steps to add additional languages:

1. Click **Start > Control Panel** on the Windows Desktop and select the **Clock, Language, and Region** window that is available through the Control Panel. (If you have your view set to list all of the functions in the Control Panel, go directly to the Region and Language function.) On the Region and Language window, select the Keyboards and Languages tab (Figure IV-5).

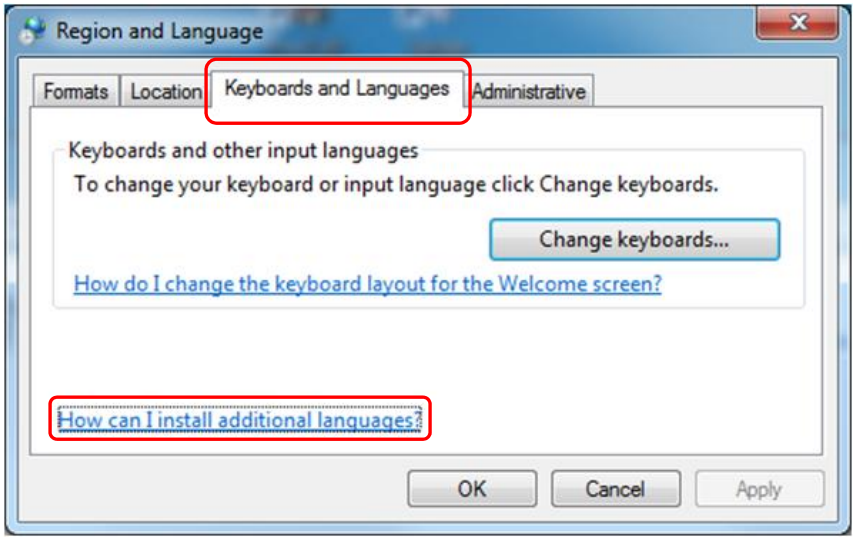


Figure IV-5. Region and Language Window (Keyboards and Languages Tab)

   Windows 7 requires the installation of a Language Interface Pack (LIP) available for download at no cost for most languages. As of January 2012, LIPs are available in several dozen languages.

2. Click on the **How can I install additional languages?** link to learn more about installing your language.

Appendix V.
FOCIS Editable Terminology

Introduction

FOCIS permits users to modify both the Primary and Alternate screen labels of many key FOCIS terms. Users open the window used to edit the Primary and Alternate labels by clicking on the icon found on the FOCIS toolbar and all popup windows. After opening the Translation window, make sure to select the Terminology tab (Figure V-1). Instructions for using this window are found in Chapter 8, Utilities. Table V-1 through Table V-5 of this appendix provide a quick reference, showing which FOCIS terms are editable and where to find them among the Categories.

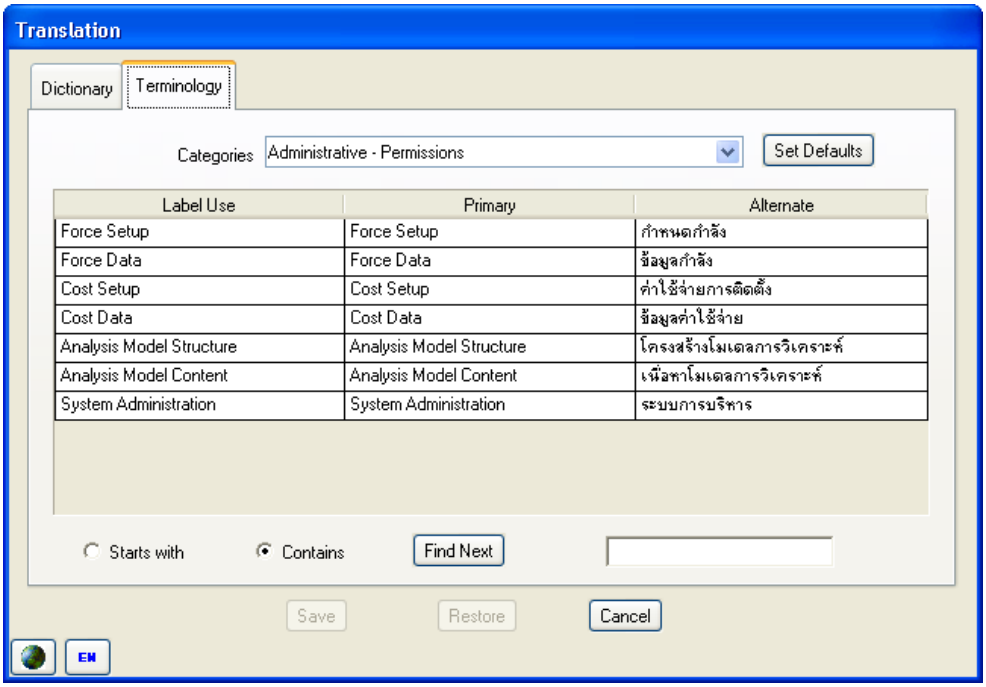


Figure V-1. Translation Window

FOCIS Terminology

Table V-1. Administrative Terminology

Category	Subcategory	Default Primary Labels	Use
Administrative	Permissions	*Force Setup*	Terms that describe the types of data each registered FOCIS user can modify.
		Force Data	
		Cost Setup	
		Cost Data	
		Analysis Model Structure	
		Analysis Model Content	
		System Administration	
	Security Classification Labels	*Unclassified*	The security label options that can be used in an exported Excel file.
		Confidential	
		Secret	
		Top Secret	

Table V-2. Cost Data Terminology

Category	Subcategory	Default Primary Labels	Use
Cost Data	Account Types	*Personnel*	A list of the Terms used to describe how a specific Cost Account is used. These group Cost Accounts as Account Types in windows where users choose Cost Accounts.
		Equipment Ops	
		Equipment Overhauls	
		Unit Ops	
		Equipment Procurement	
		WRM	
		Line Items	
	Budget Line Item Data Types	*Actual*	Terms used to describe whether a Line Item cost entry is an amount that is in the budget or the amount that is desired.
		Desired	
	Inflation Rate Types	*Annual*	Terms used to describe which data entries are annual inflation rates and which are index rates
		Index	
	Equipment Operations - Factor Types	*Per Item (In Use)*	The labels used to identify the three types of Equipment Operations Cost factors
		Equipment Use	
		Per Item (In Storage)	
	Equipment Operations – Metrics	*Per Year*	The term used with Equipment Operating Costs to describe the Cost Factor Metric used with costs that are considered "fixed" per year.
		Per Year	
	Equipment Overhauls - Factor Types	*Major Overhauls*	Terms used to describe the three different types of Overhauls with Overhaul costs and quantities.
		Minor Overhauls	
		Component Overhauls	
	Equipment Overhauls - Metrics	*Per Overhaul*	The Term used to describe the basis for Overhaul costs cost factors.
	Equipment Overhauls - Quantities	*Actual*	The Terms used to indicate the number of Overhauls used to calculate Overhaul costs included in the budget and the number desired.
		Desired	
Cost Data	Personnel - Factor Types	*Per Person*	The Term used to Indicate that Personnel cost factors

Category	Subcategory	Default Primary Labels	Use
(continued)			are costs for one person.
	Personnel - Metrics	*Per Year*	The Terms used to indicate whether a Personnel cost factor has been entered as a cost per year, per month, or per day.
		Per Month	
		Per Day	
	Unit Operations - Factor Types	*Per Unit*	The Terms used to indicate the type of cost driver used with a Unit Operations cost factor.
		Unit Activity	
		Per Person	
	Unit Operations - Metrics	*Per Year*	The Terms used to indicate the specific cost driver used with a Unit Operations cost factor.
		Unit Activity	
		Actual Active Personnel	
		Actual Reserve Personnel	
		Actual Civilian Personnel	
		Authorized Active Personnel	
		Authorized Reserve Personnel	
		Authorized Civilian Personnel	
		Actual by Personnel Type	

Table V-3. Report Data Terminology

Category	Subcategory	Default Primary Labels	Use
Report Data	Cost Calculation Methods	*Average Manning*	The Terms used in cost reports that use the data field "Calculation Method."
		End of Year	
		Per Item (In Use)	
		Per Item (Stored)	
		Equip Use	
		Per Unit	
		Unit Activity	
		Actual Active	
		Actual Reserve	
		Actual Civilian	
		Authorized Active	
		Authorized Reserve	
		Authorized Civilian	
		Personnel Type	
		Major Overhauls	
		Minor Overhauls	
		Component Overhauls	
		Factor	
		Project	

Table V-4. Setup Data Terminology

Category	Subcategory	Default Primary Labels	Use
Setup Data	Metric Usage Types	*Unit Activity*	The Terms used to indicate the intended use of Metrics in the setup data.
		Equipment	
		WRM	
	Personnel Calculation Type	*Average Manning*	The Terms used to indicate whether the calculation of Personnel costs is based on the quantity entered year by year or the average of the quantities in each year and the prior year.
		End of Year Manning	

Table V-5. Unit Data Terminology

Category	Subcategory	Default Primary Labels	Use
Unit Data	Data Types		Terms used to Indicate a type of Unit Resource data.
	Actual Number of Personnel	*Actual*	
	Authorized Number of Personnel	*Authorized*	
	Training Days Per Reserve Person	*Training Days*	
	Actual Equipment Quantity	*Actual*	
	Authorized Equipment Quantity	*Authorized*	
	Equipment Quantity in Storage	*Storage*	
	Actual Equipment Use	*Actual*	
	Desired Equipment Use	*Desired*	
	Actual Unit Activity	*Actual*	
	Desired Unit Activity	*Desired*	
	Actual War Reserve Quantity	*Actual*	
	Desired War Reserve Quantity	*Desired*	
	Personnel Classes	*Active*	Terms used to label the major classification of Personnel Types.
		Reserve	
		Civilian	
		Other	
	Resource Categories	*Manpower*	Terms used to label the types of Unit Resource data.
		Equipment	
		Equipment Use	
		Unit Activity	
		War Reserves	

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14. ABSTRACT

This user's manual describes the capabilities of the Force Oriented Cost Information System (FOCIS) model and how it is used to develop, evaluate, and track multi-year defense program plans. FOCIS operates on personal computers running Microsoft XP or any currently existing later operating system (VISTA or Windows 7). FOCIS operates as a standalone application or in an existing local area or wide area wired or wireless network.

The foundation of FOCIS is a user-entered, unit-level force structure database that can be modified to reflect alternative defense planning strategies. FOCIS provides cost estimating functions to estimate the costs of the program plans. FOCIS also provides a suite of integrated analysis tools that allow users to evaluate program resources using common defense analysis models that can be constructed as combinations of missions, military functions, geographic locations, and other taxonomies deemed useful.

FOCIS gives a country's defense planners the ability to understand the total cost of alternative program plans, to determine whether they are affordable and to understand how their resources are being used relative to national defense priorities.

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