# 4.0 FEMIS PC Installation

The following sections describe the steps needed to install FEMIS on a PC.

## 4.1 Installing the PC COTS

The order for installing the COTS on a new FEMIS PC is as follows:

1. Windows 2000 Service Pack 2 or Windows NT 4.0 Service Pack 6

2. Internet Explorer 4 or above (for Windows NT only)

3. Oracle Net8 Client v8.1.6 and ODBC Driver v8.1.6.2

4. ArcView GIS v3.1 and v3.1.1 patch

5. Microsoft Data Access Components v2.1 (only for new installs on Windows NT 4.0 PCs)

At the end of this section, PNNL has provided two checklists that can be used for each PC installation.

- FEMIS PC Installation Checklist

- FEMIS PC Validation Checklist.

### 4.1.1 Installing Windows 2000 Service Pack 2 or Windows NT 4.0 Service Pack 6

Service packs for the operating system are on the COTS CD for FEMIS v1.5. For Windows 2000 Service Pack 2 should be installed and for Windows NT 4.0 Service Pack 6 should be installed.

To install Windows 2000 Service Pack 2, insert the FEMIS v1.5 COTS CD into the CD drive and complete the following steps.

1. Double-click on `<COTS DRIVE>\W2KSP2\w2ksp2.exe` to extract the files.

2. Accept the license agreement, and the installation process begins.

3. Restart the PC when the installation process has completed.

To install Windows NT Service Pack 6, insert the FEMIS v1.5 COTS CD into the CD drive and complete the following steps:

1. Double-click on `NT4SP6a/SP6I386.EXE` to extract the files.

2. Accept the license agreement, and the installation process begins.

3. Restart the PC when the installation process has completed.

## 4.1.2 Installing Internet Explorer

For FEMIS to install and function correctly on Windows NT 4.0 PC, Internet Explorer v4 or above needs to be installed. A copy of Internet Explorer v5.5 is included in the COTS CD and can be installed by running `<COTS drive letter>:\IE5.5\ie5setup.exe`.

## 4.1.3 Installing Oracle Net8 Client v8.1.6 and ODBC Driver v8.1.6.2

Both Oracle Net8 Client v8.1.6 and ODBC Driver v8.1.6.2 must be installed for FEMIS v1.5.

### 4.1.3.1 Installing Oracle Net8 Client v8.1.6

**Note:** When Oracle Universal Installer is installed, Java Runtime Environment 1.1.7.24 will also be installed. If you use a later version, you may need to reinstall it.

To install Oracle Net8 Client v8.1.6, insert the FEMIS v1.5 COTS CD into the CD drive and complete the following steps:

1. Login to Windows as a user with `Administrator` privileges.

2. Start Windows Explorer, and browse to `<COTS drive letter>:\Oracle816`.

3. Select the `SETUP.EXE` program, and run it by clicking `Open` and `OK`. The Oracle Universal Installer will start.

4. Click `Next` on the Welcome window.

5. Check the path on the File Locations window under Destination Path if you are upgrading to ensure Oracle installs in the same path where v8.1.5 was installed. Click `Next` to continue.

6. Choose `Custom` on the Installation Types window. Click `Next`.

7. Ensure boxes on the Available Products window are checked next to the following products.

   *Net8 Products*
   *Net8 Client*
   *Net8 Client*
   *Oracle Installation Products*
   *- Oracle Universal Installer*

   Uncheck all unneeded products.

   **Note:** These are the minimum required products for FEMIS. If you need additional items, they can be installed also, but it may require additional configuration during setup that is not covered in this document.

   Click `Next`.

8. Click `Next` on Component Locations window.

9. Click `Install` on the Summary window.

   After Oracle products are installed, the Configuration Tools window may appear and attempt to run the Net8 Configuration Assistant. If this happens, select the `Net8 Configuration Assistant` and click `Cancel`. Click `Yes` to confirm the cancellation, click `OK` on the error message window that appears, and then click `Next`.

10. Click `Exit` on the End of Installation window–unless you need to install the ODBC Driver v8.1.6.2, then click `Next Install` and proceed to Step 3 of the next section.

### 4.1.3.2 Installing Oracle ODBC Driver v8.1.6.2

Before you can install the ODBC driver 8.1.6.2, Oracle Net8 Client 8.1.6 must be previously installed. Insert the FEMIS v1.5 COTS CD into the CD drive and complete the following steps:

1. Click `Start` → `Programs` → `Oracle Installation Products` → `Universal Installer`.

2. Click `Next` in the Welcome window.

3. Browse to `<COTS drive>:\ODBC8162\Disk1\stage\products.jar` for the `Source… Path`. Click `Next`.

4. Click `Install` in the Summary window.

5. Click `Exit` in the End of Installation window.

## 4.1.4 Installing Microsoft Data Access Components on Windows NT PCs

**Note:** If you have FEMIS v1.4.7.2 installed, Microsoft Data Access Components (MDAC) has probably been installed on Windows NT PCs. If this is a new install on a Windows NT PC, then complete this section.

For PCs using Windows NT 4.0, MDAC 2.1 or above must be installed. To install MDAC, insert the FEMIS COTS CD into the CD drive, and complete the following steps:

1. Login to Windows as a user with `Administrator` privileges.

2. Select `<CD drive>:\mdac_typ.exe`, and run it.

3. Select the icon for `Complete` installation.

## 4.1.5 Installing ArcView GIS v3.1 and v3.1.1 Patch

If you have FEMIS v1.4.7.2 installed, ArcView v3.1 and v3.1.1. patch should already be installed so you can skip this section.

**Note:** If you reinstall ArcView GIS after having already installed FEMIS, the correct version of the file `DEFAULT.APR` will be overwritten by the ArcView GIS installation. Copy the `DEFAULT.APR` file from your `C:\FEMIS` directory to the `<DRIVE>\ESRI\AV_GIS30\ARCVIEW\ETC` directory on the PC. If you cannot find `C:\FEMIS\DEFAULT.APR`, then the file may be copied from `/home/femis/pc/femmisc/` on your server.

**Note:** ArcView GIS v3.1 must be installed on the computer before you install the v3.1.1 patch, and the patch must be installed for FEMIS to work properly.

If an older version of ArcView GIS is currently on the PC, remove it before installing ArcView GIS v3.1.

**Note:** If more than one version of ArcView GIS is installed on the PC, FEMIS will find the most recently installed version. If you have multiple versions of ArcView GIS installed, check the `%WINDIR%\FEMIS.INI` file after the FEMIS installation is complete to make sure that the file references the correct installation.

### 4.1.5.1 Installing ArcView GIS v3.1

You will need to have the ArcView GIS license number for this installation. The CD key number is located on the ArcView GIS installation disk or included with its documentation.

To Install ArcView GIS v3.1, insert the FEMIS COTS CD into the CD drive, and complete the following steps:

1. Login to Windows as a user with `Administrator` privileges.

2. Select `<CD drive>:\AV3.1\SETUP.EXE`, and run it.

3. Click `Next` in the Welcome window.

4. Click `Yes` in the License Agreement window.

5. Choose `Local` install for installation type. Click `Next`.

6. Select `Custom` and other options you may want to install. Click `Next`.

   **Note:** If you are upgrading, click `Yes` to replace current installation.

   If you are attempting to upgrade and you are not prompted to replace the current installation, click `Back` and verify the install destination has ArcView installed.

7. Deselect the `Map` data and `Launch Seagate Crystal Reports 6.0` setup. Click `Next`.

   **Note:** Map data and Seagate Crystal Reports are not used by FEMIS but can be installed if desired.

8. Click `Next` to accept the defaults for `Program Folders and Existing Folders`. The Start Copying Files window displays.

9. Click `Finish` to start copying the files.

10. Click `OK` in the information window.

11. Click `Yes` and `Finish` on the Setup Complete window to restart the computer.

12. Re-logon to the computer using the same user account that was used to install ArcView.

13. Click `Start` → `Programs` → `ESRI` → `ArcView GIS version 3.1` → `ArcView GIS version 3.1`.

14. Enter the name and organization and the ArcView GIS license number. Click `OK`, and ArcView GIS will start.

15. Deselect the `Show this window when ArcView GIS Starts` box on the Welcome to ArcView GIS window. Click `Cancel`.

16. Click `File` → `Exit` to close The ArcView GIS v3.1 application.

### 4.1.5.2 Installing ArcView GIS v3.1.1 Patch

**Note:** ArcView GIS v3.1 must be installed before installing ArcView GIS v3.1.1 patch.

To Install ArcView GIS v3.1.1 patch, insert the FEMIS COTS CD into the CD drive, and complete the following steps:

1. Login to Windows as a user with `Administrator` privileges.

2. Select `<CD drive>:\AV3.1 PATCH\AV31PATCH.EXE`, and run it.

3. Click `Yes` to continue the installation of ArcView GIS v3.1.1 patch.

4. Click `Next` to accept the default `Local Install`.

5. Click `Next` to accept the default destination location.

6. Click `Next` in the Review Current Settings window that displays inside the Start Copying Files window.

7. Click `Finish` and reboot the PC before using ArcView GIS v3.1.

### 4.1.5.3 Creating the ArcView GIS Icon for All Users

The ArcView installation only installs the ESRI Program folder that contains the ArcView GIS 3.1 icons for the user that installed the software. If you would like more than this user to run ArcView from Program folders, you will need to copy the ESRI Program folder to the `All Users` profile. FEMIS does not require ArcView GIS v3.1.1 be in Program folders.

To copy the `Program` folder from the installer's user profile to the `All Users` profile, use the following procedure:

1. Login to Windows as a user with `Administrator` privileges.

2. Browse to the `%WINDIR%\PROFILES\<Installation user>\Start Menu\Programs or %SYSTEMDRIVE%\DOCUMENTS AND SETTINGS\<Installation user>\Start Menu\Programs.`

3. Right click on the `ESRI` folder and select `Cut`.

4. Browse to the `%WINDIR%\PROFILES\All Users\Start Menu\Programs or %SYSTEMDRIVE%\DOCUMENTS AND SETTINGS\All Users\Start Menu\Programs`.

5. Right click on the `Programs` folder and select `Paste`.

### 4.1.6 Installing Other COTS

The following COTS products should be installed using the installation documentation for each product.

**E-mail application** (if desired)

Use the standard product installation notes provided with the software.

## 4.2 Configuring the FEMIS Setup Program

**CAUTION**

**Configuration is only done once at each EOC. Stop PC installation until all configurations have been performed.**

Several other files must be configured for your site or EOC. Most of these files should have been configured during the FEMIS UNIX installation but should be validated before installing the FEMIS application on the PCs.

**Note:** Directories specified below are from the PC. You will need to use the UNIX version of these directories if you are editing files from the UNIX server.

### 4.2.1 Connecting the Network Install Drive

To connect the FEMIS network drive to the install directory, complete the following steps. The parts in *italics* are what should be changed.

1. Obtain the shared name of the FEMIS account home directory from your System Administrator. Example: `\\<server>\femis`.

2. Open Windows Explorer.

3. Select `Tools` → `Map Network Drive` menu option, and fill in the fields in the Connect Network Drive window as follows.

   Drive: *`I:\`*
   Path: *`\\<server >\femis`*
   For Windows 2000, click on `Connect Using a different user name`. On the Connect As window, enter as *`femis`* in the *`User name`* field and in the Password field, enter the server femis account password.
   For Window NT, Connect as: `femis` and enter `femis` in the `Connect as:` field. Enter the server femis account password when prompted.

Any available drive letter can be used in place of `I:\` for the installation drive. However, this documentation will assume that FEMIS is being installed from the `I:\` drive. If you have another drive mapped to the server (such as `M:\`) as a user other than `femis`, you will need to disconnect it.

## 4.2.2 Validating the I:\CONFIGD\FSETUP.INI File

The FEMIS Setup program uses a configuration file to determine the defaults for the installation. Validate that the `I:\CONFIGD\FSETUP.INI` file was correctly configured during the server installation.

**Note:** The site and EOC values need to be uppercase.

The first section of the `INI` file, the `[Setup Defaults]` section contains entries that set defaults for the Setup program. Starred items (*) are those that should have been configured by the UNIX installation scripts.

| | |
|---|---|
| `Site*` | Default site code. This should be the FEMIS four-letter code for your site. |
| `EOC*` | Default EOC code. This should be the FEMIS four-letter code for your site. |
| `DestDir` | Default installation destination directory for new installations. Re-installations and upgrades will default to the current FEMIS path. |
| `Version` | Gives the version of FEMIS for which this instance of `FSETUP.INI` was created. |
| `DateThisFSETUPCreated` | Gives the build date for this version of FEMIS. |

| | |
|---|---|
| `mDriveNetPath*` | Path to the FEMIS `M:\` drive that the FEMIS startup script will connect. This does not need to be set if you use an alternate method to map the `M:\` drive. Enter this specification only if you desire to have fstartup.exe attach the `M:\` resources on the majority of PC installations. |
| `LocalStartupScript` | Full path for a local startup script to be run by the FEMIS startup script. This is optional. |
| `EMIS_StartupScript` | Full path to the EMIS startup script file. The FEMIS startup script file will run this file. |
| `fupdateLocation` | The UNC Path for the location of FUPDATE.BAT is used to update files on the user's PC. Refer to Section 4.2.8, Updating Files on All PCs Using FUPDATE.BAT. |

The second section of the `INI` file, the `[Sites]` section, is used to fill the Site drop-down list in the Select Site and EOC window in the PC Setup program. You can edit this list to limit the possible selections available in Setup. Each site entry must be formatted as `SiteNN=<SITECODE>` where `NN` is a two-digit integer and `<SITECODE>` all uppercase. If you shorten the list of sites to a single entry, the user will be forced to accept that entry when running Setup. If you edit the list, the numbering for the sites must be sequential, starting at `01`.

Subsequent sections are lists of EOCs for each site in the `[Sites]` section. Each site listed in the `[Sites]` section must have a corresponding `[<SITECODE> EOCs]` section. These sections are used to fill the EOC drop-down list in the Select Site and EOC window in the PC Setup program when the corresponding site is selected on the same window. The EOC list sections can be edited in the same manner as the Site list. Each EOC entry must be formatted as `EOCNN=<EOCCODE>` where `NN` is a two-digit integer and `<EOCCODE>` must be all uppercase. If you shorten the list of EOCs to a single entry, the user will be forced to accept that entry when running Setup. If you edit the list, the numbering for the sites must be sequential, starting at `01`. EOC list sections that do not have a corresponding site listed in the `[Sites]` section will be ignored.

### 4.2.3 Validating the I:\CONFIGD\TNSNAMES.ORA File

The `TNSNAMES.ORA` file should be configured with the correct database names, listeners, and IP addresses. This file should be a copy of `$TNS_ADMIN/TNSNAMES.ORA` on the UNIX server. For each listener on each server, it should contain a section like the following. The parts in *Italics* are what should be changed.

```
fi_ctoo =
  (DESCRIPTION =
    (ADDRESS_LIST =
        (ADDRESS =
          (COMMUNITY = TCP)
          (PROTOCOL = TCP)
          (HOST = ctoosun.utah.gov)
```

```
            (PORT = 1521)
          )
        )
        (CONNECT_DATA =
          (SID = fi_ctoo)
        )
      )
    ...
```

**Note:** The setup program will not copy the TNSNAMES.ORA file to a PC if that PC already has a TNSNAMES.ORA file. See Section 15.2, FUPDATE.BAT in the ***System Administration Guide for FEMIS Version 1.5*** for more details on how to configure FUPDATE.BAT, if you need to update the TNSNAMES.ORA file on all of the PCs that will be running FEMIS.

### 4.2.4 Validating the I:\CONFIGD\ADDODBC.BAT File

FEMIS uses the I:\USER\ADDODBC.BAT batch file to add all the necessary ODBC data source names to each PC. Verify that the mapping from EOC code to listener ID is correct for each line.

### 4.2.5 Validating the I:\CONFIGD\AUTOEXNT.BAT File

During the installation process, the I:\CONFIGD\AUTOEXNT.BAT file is copied to the %WINDIR%\SYSTEM32 directory, usually C:\WINNT\SYSTEM32. This file should contain the following commands. The <TEMPLATE_HOSTNAME> should have been changed to the name of the FEMIS UNIX server.

```
net stop NetWorkTimeProtocol
%WINDIR%\SYSTEM32\PING -w 60000 TEMPLATE_HOSTNAME
%WINDIR%\SYSTEM32\NTPDATE -b TEMPLATE_HOSTNAME
net start NetWorkTimeProtocol
```

The AUTOEXNT.BAT file is invoked at boot up. Its purpose is to synchronize time on the PC while bypassing the usual NTP time adjustment algorithms. NTPDATE immediately sets the time on the PC to be the same as on the UNIX server. After boot up, the usual NTP algorithms apply.

### 4.2.6 Validating the I:\CONFIGD\NTP.CONF File

During the installation process, the NTP.CONF file is copied to the %WINDIR% directory, usually C:\WINNT.

The NTP configuration file on the PC should contain at a minimum one drift file and one-or-more server directives. The format of the drift file directive is driftfile %WINDIR%\NTP.DRIFT, where %WINDIR% usually is C:\WINNT.

The format of the server directive is server <hostname>, where hostname is the name of the UNIX server from which the PC is to acquire time synchronization. Generally, this is the UNIX computer located on the same Local Area Network (LAN) as the PC. PCs should acquire time synchronization first from the closest UNIX computer and not from some distant host on the WAN or the Internet. Distant hosts can be used as a secondary time synchronization source. To designate the primary NTP host, include the keyword, prefer, in the server directive.

As an example, the following NTP.CONF file is the preferred format for NTP configuration. It lists the local UNIX server as the preferred time server and the other (far away) servers as secondary. In this manner, if the preferred host is inaccessible, one of the secondary servers can provide time synchronization:

```
server    <IP address of UNIX server> prefer
server    <IP addresses of other servers on WAN>
server    <IP address of server on the Internet>
driftfile C:\WINNT\NTP.DRIFT
```

The Network Time Protocol service is very sensitive to the format of this file. Occasionally, in transferring this file from between UNIX and Windows computers, extra carriage return characters will be appended to the end of each line in this file. These extra characters are not detectable in a PC editor, but show up as "^M" characters at the end of each line in a UNIX editor, such as vi. These extra characters at the end of a line with a server directive will prevent the Network Time Protocol service from loading correctly. If the Network Time Protocol service does not appear to be working, this should be checked.

For more details on NTP set up and configuration methods, see Section 11.0, Server Network Time Protocol (NTP) Set Up, in the ***System Administration Guide for FEMIS Version 1.5***.

### 4.2.7 Configuring the I:\PC\SETUP\FEMIS.DB File

The FEMIS.DB file is used by the FEMIS Network Monitor tool. To configure the servers and routers to match your network configuration, you will need the server names for all EOCs at the site. If you have not previously configured a FEMIS.DB file, it may not exist. Your PC needs to be able to resolve the host names of all the servers on the network either through a naming service or HOSTS file.

> **Note:** If the FEMIS.DB file's attributes are set to read-only, then WS_WATCH.EXE will not be able to save the new configuration you create, but it will not give any indication of an error.

1. Execute a telnet session to the FEMIS server by clicking Start → Run, and enter telnet <server>. Logon using the femis account.

2. Change the Permissions on the /home/femis/pc/setup directory and the femis.db file (if it exists) by entering the following:

```
chmod 775 /home/femis/pc/setup
chmod 777 /home/femis/pc/setup/femis.db
```

Do not close the telnet session window.

3. Run `I:\PC\SETUP\WS_WATCH.EXE` on the PC.

4. Select `File` → `Load`, browse to `I:\PC\SETUP`, select `FEMIS.DB`, and click `Open`. If `FEMIS.DB` does not exist, click `Cancel`.

   If the `FEMIS.DB` you opened does not resemble your network architecture, close `WS_WATCH.EXE`, delete `I:\PC\SETUP\FEMIS.DB`, and restart `WS_WATCH.EXE`.

5. Select `Edit` menu item and modify the grid to match your network. To add a system, select `Add` → `Host`. An icon will display. Position the icon where you want it.

6. Click once on the `new host`, and the host information window displays. Enter the following information:

   ```
   Display Name:  <server name>
   Address/Name:  <server name>
   System Type:   <server or router>
   Type:  TCP/IP
   ```

7. Click `Accept`.

   **Note:** Repeat Steps 2 through 4 for all FEMIS servers, network routers, and other systems significant to the network at your location. Use the `Edit` → `Add` → `Line` to show appropriate network connections between items.

8. Add lines between hosts to resemble network connections by selecting `Add` → `Line` and right click on the beginning and end of the line position.

9. Delete hosts or lines by selecting `Delete` → `Host/Line`. Left click on the host to delete. Right click on the line to delete.

10. Select `END_EDIT`, `File` → `Save As`. Save the file as `I:\PC\SETUP\FEMIS.DB`. If it is not saved with this name and location, it will not be installed on the PC during setup.

11. Exit `WS_WATCH.EEXE`.

12. Return to the telnet session to the FEMIS server. Change the `Permissions` on the `/home/femis/pc/setup` directory and the `FEMIS.DB` file located there by entering the following:

```
chmod 555 /home/femis/pc/setup
chmod 444 /home/femis/pc/setup/femis.db
exit
```

13. Close the telnet window.

### 4.2.8 Updating Files on All PCs Using FUPDATE.BAT

`FUPDATE.BAT` is a utility that can be used to update any file(s) on all FEMIS PCs such as the `HOSTS` file or GIS data files. View the `I:\user\fupdate.bat` file itself for specific instructions on how to configure it to update files on all FEMIS PCs.

See Section 15.2, FUPDATE.BAT in the ***System Administration Guide for FEMIS Version 1.5*** for more details on how to configure `FUPDATE.BAT`.

### 4.2.9 Updating the PC HOSTS File

Depending on the DNS and TCP/IP configurations for the local PCs, it may be necessary or desirable to update the `HOSTS` file on PCs as part of the FEMIS installation. If the PC does not have a `HOSTS` file and one has been configured on the installation server in the `/home/femis/configd` directory, the `PC Setup` program will copy that file to the PC. However, if a `HOSTS` file already exists on the PC, the `PC Setup` program will not overwrite it.

If it is decided to update the `HOSTS` file on all PCs, the update should be done using the FEMIS `FUPDATE` tool. The `FUPDATE` tool is run as part of the PC Setup program, so updates will be installed when FEMIS is installed. `FUPDATE` is also run each time a user logs into a PC, so updates, that are configured after one or more PCs have been installed, will still be copied to those PCs.

**Note:** The setup program will not copy the `HOSTS` file to a PC if that PC already has a `HOSTS` file. See Section 4.2.8, Updating Files on All PCs Using FUPDATE.BAT, if you need to update the `HOSTS` file on all of the PCs that will be running FEMIS.

## 4.3 Installing the FEMIS Client Software

This software is for the PC workstations that are connected to the FEMIS data server and contains the FEMIS client software and a collection of GIS theme files. The installation program for the FEMIS client software assumes the necessary COTS packages have already been installed.

The FEMIS client software is installed over the network from a UNIX server. The client software contains over 120 files representing approximately 50 MB of file space.

The FEMIS executable and other FEMIS support files will be loaded to the following locations:

- current `%WINDIR%` directory, usually `C:\WINNT`
- `%WINDIR%\SYSTEM32` directory
- `C:\FEMIS` directory

All files needed by the installation process should have previously been copied from the release tape or CD to the server. The files specified in Section 4.2, Configuring the FEMIS Setup Program, should have been configured or validated before the FEMIS client software is installed.

### 4.3.1 Preparation

To prepare for starting to install FEMIS v1.5, complete the following steps:

1. Login to Windows as `Administrator` or to a Windows account that has Administrator privileges. Setup will abort if it is run from an account that **does not have** Administrator privileges.

2. Verify that all COTS needed by FEMIS are installed on the PC. At the minimum, the following should be installed (the Setup program will also verify that these are installed).

   - Microsoft Windows 2000 Service Pace 2 or Windows NT 4.0 Service Pack 6
   - Oracle Net8 v8.1.6
   - Oracle ODBC Driver v8.1.6.2
   - ArcView GIS (ESRI)

   **Note:** FEMIS also requires the PC to map drives to directories on the FEMIS server. If Samba is being used, no additional software is required on the PC. If an NFS software package such as Hummingbird Maestro or Sun Solstice NFS Client is being used, then the client software needs to be installed on the PC.

### 4.3.2 Running the Setup Program

The FEMIS Oracle database on the UNIX server must be operational before the setup program is run.

1. Close all programs that are running, especially all FEMIS programs, including KeyPrint.
2. Uninstall the previous version of FEMIS using the Add/Remove Programs on the Control Panel. If you are prompted to remove shared files, select the `Yes to all!` option.

3. Click `OK` on the message to restart the PC. If you get a message about creating a shortcut for `fstartup` after the PC has restarted, select `No` or `Cancel`.

   Also ignore any messages about a service not being able to start.

4. Connect your I:\ drive, and run the I:\PC\SETUP\SETUP.EXE program, and click Next on the Welcome window. (See Section 4.2.1, Connecting the Network Install Drive, for instructions on connecting to the I:\ drive, if you have not already done this.)

   **Note:** The Windows Installer may need to be installed on some Windows NT PCs. If so, the setup program will install it, and you will need to restart the PC. If the setup program fails to continue after restarting, remap the I:\ drive, and rerun SETUP.EXE.

   If you are installing on a Windows NT PC, you may get the following error: Internal Error 2755. 1631, I:\pc\setup\femis.msi. This indicates that a registry key in HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Environment contains a null value. The workaround for this problem is to remove null environment variables before running the setup program.

5. Click Next on Select Site and EOC. This allows you to select the Site and EOC from drop-down lists. The contents of the lists are controlled by the I:\CONFIGD\FSETUP.INI file.

6. Click Next on Custom Setup. This allows you to select which FEMIS features will be installed.

   Verify the FEMIS Location is correct, and click Next. If FEMIS has previously been installed on the PC, the default is the last place where FEMIS was installed. If this is the first time FEMIS has been installed on the PC, the default location is C:\FEMIS.

7. Verify the GIS path, and click Next on Select GIS Size and Location. To change the GIS path, click the Change button. To change the GIS size, click on the appropriate size. To ensure that the necessary GIS files are copied to the PC, **do not select the upgrade checkbox** when installing FEMIS v1.5 because the Upgrade option will only regenerate the FEMISGIS.APR file and skip the copying of GIS data files.

8. Click Install. The program features you selected will be installed. This may take several minutes.

   **Note:** You may see improved performance from the FEMIS GIS if you choose to install the GIS on a separate physical disk than the one on which you are installing FEMIS.

   Your default database will be set.

   As part of this step, the following processes are completed:

   - The FEMIS.INI for the PC name, FEMIS and GIS directories, and COTS paths are updated.
   - ArcView opens to convert the FEMISGIS.INI file to v1.5 format (if applicable) and to regenerate the FEMISGIS.APR file.

- ODBC information for the FEMIS databases is added.
- NTP service to synchronize time on the PC with the server is installed.
- The `C:\WINNT\SYSTEM32\AUTOEXNT.BAT` file is created.
- Obsolete files from older FEMIS installations are removed.
- FEMIS environment variables, if needed, are added.

9. Select `Yes, I want to restart my computer now.` on the Setup Complete window. Click `Finish`.

10. Log back in as `Administrator` after the PC restarts.

### 4.3.3 Regenerating the FEMIS GIS Dynamic Themes

The FEMIS GIS has both static and dynamic themes. The Setup program installs the files for the static themes. The files for the dynamic themes are generated by the FEMIS application from data stored in the FEMIS relational database. These dynamic theme files need to be regenerated after installing (or reinstalling) FEMIS on a PC.

To regenerate the dynamic GIS themes, complete the following steps:

1. Start FEMIS and log in.
2. Select `Operations` mode, and click `OK`.
3. Click the `Map` button on the Workbench to start the GIS, and wait for the GIS to load.
4. Click `Utility` on the menu bar, and select `Regenerate Map Layers` → `Regenerate Point Map Layers`.
5. Click the `Utility` on the menu bar, and select `Regenerate Map Layers` → `Regenerate Polygon Map Layers`.
6. Exit FEMIS.

## 4.4 Configuring the PC

To configure the PC, several configuration and verification processes need to be completed.

### 4.4.1 Setting Up FEMIS User Accounts on Windows 2000/NT and UNIX

For Windows 2000/NT to be able to connect to the required FEMIS drives located on the FEMIS server, a UNIX user account on the FEMIS server must be created for each Windows 2000/NT user account that will be used to run FEMIS. Each of these UNIX user accounts must have the same username and password as its corresponding Windows 2000/NT user account. These are separate from the usernames and passwords that are used to log into the FEMIS application. The usernames and passwords used to log into the FEMIS application do not need to match the UNIX or Windows 2000/NT usernames and passwords.

**Note:** Both of the Windows 2000/NT and UNIX user accounts **must have** the same username and password so that network drives can connect correctly. Windows 2000/NT and UNIX usernames and passwords **are case sensitive**. For example: `JSmith` and `jsmith` **will not** work.

You can set up individual user accounts (such as `jsmith`) on one or on all of the PCs and the FEMIS server. Positional accounts (such as `sheriff`) can be set up on one or all of the PCs and the FEMIS server. One global (such as `femisuser`) can be set up on all of the PCs and the FEMIS server, or some other combination.

**Note:** Setting up and maintaining individual or positional accounts on all of the PCs and the FEMIS server can be time consuming, especially if you have many accounts and many PCs. If the password is changed for an account on one PC, it must be changed on all the others so they can all still connect to the network drives correctly.

#### 4.4.1.1 Adding User Accounts to Windows 2000 and NT

To add a user account on a PC, log onto the system with an account with `Administrator` privileges and complete the following steps:

For Windows 2000

1. Click `Start` → `Settings` → `Control Panel` → `Users and Passwords`.

2. Select the `Advanced` tab, and click the `Advanced` button under Advanced User Management.

For Windows NT

1. Click `Start` → `Program` → `Administrative Tools` → `User Manager`.

2. Select `New User` under the User menu item.

3. Right click on the `Users` folder, and select `New User`.

Enter values for the following fields:

```
Username:
Full Name:
Description:
Password:
Confirm Password:
```

4. Check with your System Administrator to determine which of the following options should be checked.

```
User must change password at next logon
User cannot change password
Password never expires
Account disabled
```

After creating the Windows account, verify the following items.

- The username and password entered are the same as those for this user on the UNIX server (if not using NT domain authentication via Samba).

- The account is at least in the `Users` group under the `Groups` button for Windows NT 4.0 or a member of the `Standard User (Power User) Group for Windows 2000`.

#### 4.4.1.2 Adding User Accounts to UNIX

Refer to Section 2.3.2, Creating Users and Groups, for instructions on adding users to the UNIX server.

### 4.4.2 Running the FEMIS Startup Files

FEMIS requires that a network drive be connected in order for items to work correctly. Running the `FSTARTUP.EXE` program connects these drives, and this program should be run automatically when a user logs into Windows. Depending on how your network and PCs are set up, use one of the two methods listed below for the program to run automatically.

**Note:** Most sites should use Method 1 and **only add** the Windows user accounts that will actually be running FEMIS and have corresponding accounts on the UNIX server.

If both FEMIS and EMIS are being installed on a single Windows account, you will need to edit the `FEMIS.INI` file. See Section 4.2.2, Validating I:\CONFIGD\FSETUP.INI File, for details. This should be done once on the UNIX server before FEMIS is installed on the PCs.

### Method 1: As a User Login Script

1. Use the `User Manager` for NT or the `Local Users and Groups` management console for Windows 2000 as instructed in Section 4.4.1.1, Adding User Accounts to Windows 2000 and NT.

2. For every user account that will run FEMIS, select the user in the list. Then select the menu item `Properties or Action`, and click the `Profile` button or tab on the form that appears. If you use a domain to manage user accounts, this should be done on the domain server. Otherwise, this should be done on each PC that is used for FEMIS.

3. In the `Logon Script Name` field, enter `FSTARTUP.EXE`.

### Method 2: In Startup Folder

1. Using Windows Explorer, open the `%AllUsersProfile%\START MENU\PROGRAMS\STARTUP` folder. From the File menu, select `New` → `Shortcut`, and a Create Shortcut dialog box displays. At the Command Line, enter `%WINDIR%\SYSTEM32\REPL\IMPORT\SCRIPTS\FSTARTUP.EXE`, and click `Next`. Enter a name for the shortcut, such as `FEMIS Startup Script`.

See Section 4.2.2, Validating I:\CONFIGD\FSETUP.INI File if you wish to customize the startup. You can specify additional drives to be mapped by the FEMIS startup script, and specify local startup scripts to be run after the drives have been mapped.

## 4.4.3 Verifying the Temporary Directory and Environment Variables

The GIS and other programs need a directory to store temporary files. Use the following steps to verify that this process was completed correctly by the Setup program.

1. Select `Start` → `Settings` → `Control Panel` → `System` → `Advanced`.
   (For Window NT, select `Start` → `Settings` → `Control Panel` → `System`.)

2. Select `Environment Variables`.
   (For Window NT, select `Environment`.)

3. Verify there is a User Variable named `TEMP` (usually `C:\TEMP`). If not, enter `TEMP` in the `Variable` field and `C:\TEMP` in the `Value` field. Click `Set`.

4. Verify that a FEMISTOPDIR environment variable exists in the System Variables box. If not, select it and change the value in the Variable and Value text boxes, and click Set. The value of this variable should be set to the directory in which FEMIS was installed.

   If you change anything, you must log out of Windows and login again for the changes to take effect.

5. Click OK to exit the System Properties (Configuration for Windows NT) in the Control Panel.

### 4.4.4 Verifying the Clock Settings and Time Zone Settings

To set the date format preferences so that FEMIS can process the date correctly, complete the following steps:

1. Select Start → Settings → Control Panel → Regional Options.
   (For Window NT, select Start → Settings → Control Panel → Regional Settings).

2. Select the Time tab in the Regional Settings window.

3. Verify that you are either using a 24-hour clock (upper case "H" in the Time Style field) or a 12-hour clock (lower case "h" in the Time Style field) set with the AM and PM symbols are set to AM and PM (not case sensitive).

4. Verify the time zone is correct in the Control Panel → Date/Time icon → Time Zone tab.

### 4.4.5 Verifying the Virtual Memory Setting

For FEMIS to run as efficiently as possible, the computer should be set to have at least 250 MB (megabytes) of virtual memory. To check the virtual memory setting and increase it, if necessary, complete the following steps while logged in as Administrator:

1. Click Start → Settings → Control Panel → System.

2. For Windows 2000, select the Advanced tab, and click the Performance Options button.
   For Windows NT, select Performance.

3. Under Virtual Memory click Change.

4. Increase the Maximum size to 384 MB for Windows 2000, and if necessary, click Set.
   For Windows NT, increase the Maximum size to 250 MB, and if necessary, click Set.

5. Click OK, click Close, and select Yes to reboot, if prompted.

### 4.4.6 Creating FEMIS Icons

The FEMIS Setup program creates a shortcut on the All Users' desktop to the FEMIS folder on the `Start` menu. If you wish to add more shortcuts to the FEMIS folder on the Windows `Start` menu, you can simply add the shortcuts to the FEMIS folder on the desktop.

If you wish to have any of the FEMIS icons on the desktop, copy the shortcuts from the `FEMIS` menu on the desktop to the `%AllUssersProfile%\DESKTOP` folder.

If you wish to delete any of the shortcuts, right click on the shortcut to be deleted, and select the `Delete` option. This will only delete the shortcut, not the program to which it points.

**Note:** If an icon or a shortcut is not created in the `All Users` profile, the FEMIS icon **will only show up** for the user under whose profile the shortcut was created.

### 4.4.7 Final Steps for the FEMIS PC Installation and Configuration

**Note:** If this is an upgrade installation, you may wish to clean up old icons from the `Start` → `Programs`. These may include old icons for the FEMIS program and old icons for running the startup batch files in the Startup group.

Complete the following steps for the FEMIS installation and configuration:

1. Log out of Windows.

2. Log into Windows as the appropriate user account, and open the FEMIS application.

3. Verify the installation of the first PC thoroughly by following Section 4.6, Validating the FEMIS PC Installation, before any more PC installations are started. If you must edit any of the configured files (e.g., `ADDODBC.BAT, TNSNAMES.ORA`), copy the corrected file back to the server and install again to be sure that it will work correctly.

## 4.5 Configuring FEMIS for All PCs at an EOC

The following validation steps need to be performed one time at each EOC. Since these configuration changes affect values stored in the FEMIS database for the EOC, they will take effect on all of the PCs using the same database.

### 4.5.1 Verifying the Zone Name Lookup for EMIS PAR

**Note:** If both of the following two conditions are true, you must complete this section:
1. You are currently installing FEMIS on an onpost PC.
2. EMIS is used onpost at your site.

You can skip this section if you are upgrading from an earlier version of FEMIS, and you performed these steps when that version was installed.

Because EMIS allows users to change zone names at will, there is a possibility that FEMIS and EMIS zone names will not match exactly. It is important, however, for FEMIS to be able to map its zone names to the zone names used in EMIS so that Protective Action Recommendations (PARs) may be shared between the systems. For this reason, a simple utility named `FZONES.EXE` has been added to the list of system administration software tools available on the PC. This tool allows your FEMIS System Administrator to set up the EMIS zone name aliases so FEMIS will be able to correctly map PAR information sent from EMIS. If EMIS is part of the site configuration, then this utility must be run on the onpost FEMIS at installation and again whenever EMIS changes their zone names.

### 4.5.2 Using FZONES.EXE Tool

`FZONES.EXE` is a system tool that runs on the PC and is located in the directory where FEMIS was installed (usually `C:\FEMIS`). Before you can run this tool, you will need to install at least one PC with system tools.

This tool displays a two-column spreadsheet of zone information. In the first column, there is a read-only list of FEMIS zone names. In the second column, there is a writable copy of the EMIS zone names. When you first start this utility, it will load the values currently in the database for the FEMIS and EMIS zone names. If at any time during the editing process you wish to reload the spreadsheet based on the values in the database, click the `Reset Spreadsheet` button.

To populate the FEMIS/EMIS zone lookup table, you will need to get a list of all the EMIS zone names for the site. This information may be found on the EMIS server in the following file: `/<disk>/emis3run/emisdyn/data/<site code>/emisgis/giszne.dat`. The `<disk>` and `<site code>` will be site specific. Once you have the EMIS list of zones, the simplest way to populate the lookup table is to run the `FZONES` utility, and then type the EMIS zone names directly in the spreadsheet next to the corresponding FEMIS zone name. When the spreadsheet is complete, click the `Save` button.

## 4.6 Validating the FEMIS PC Installation

This section will assist your System Administrator to validate that the FEMIS system has been properly installed and is operating correctly.

The FEMIS PC Validation Checklist, provided at the end of this section, includes items that should be checked to ensure that the FEMIS system is operating properly. The Checklist correlates to the items listed below. These items are tested from the PC to ensure access and integration into the FEMIS application.

If problems are encountered during the validation, refer to FEMIS Troubleshooting guide found under the Help menu on the FEMIS Workbench for suggestions and guidance.

## 4.6.1 One Time at EACH EOC

The following validation steps must be performed one time at each EOC.

### 4.6.1.1 Verify Default D2PC Case Exists

From the FEMIS Workbench or the Navigator, click `D2PC`. On the D2PC window, select `Edit` mode, and select `File` → `Site Defaults` → `Revert to Site Defaults`.

If a message displays stating there is "`no current D2PC case selected`" or "`no site defaults yet assigned for this site`", then you will need to create a site default D2PC case.

**S T O P**

**If there is not a site default D2PC case, select a case that runs and make it the default case.**

**Consult with the Hazard Analyst to make sure the new default case is modified to meet the EOC's needs and properly saved.**

**Once the EOC has a default case, repeat this verification section.**

### 4.6.1.2 Verify the Evacuation Command Server

To verify the Evacuation Command server is working properly, you will need to import and run an Evacuation case. Evacuation cases are located on the `I:\data\evac` directory. See the FEMIS Help for guidance on importing and running a case. Make it your current operational case (on the Evacuation main window, `File` → `Make Case Current Operational`).

### 4.6.1.3 Verify FEMIS/EMIS Data Exchange Interface (DEI)

**Note:** The definitive description of this interface can be found in Section 7.0, FEMIS Data Exchange Interface (DEI), in the ***System Administration Guide for FEMIS Version 1.5***.

To verify that DEI is operating, click the `Status` menu in Operations mode and the select `Met Condition`. If the current meteorological (Met) data appears in the table, then the DEI is probably running.

#### 4.6.1.4 Test the GIS on the Printer

Not all printers display graphics the same. For each printer to which you anticipate printing, use both KeyPrint and the Print option on ArcView GIS to print a GIS map that contains a D2PC case, Threat Area, Risk Area and one or more facilities under each. Review the printout to ensure that it prints graphics in such a way that:

- Risk and No Risk can be differentiated.
- One feature does not totally obscure an underlying feature (e.g., You can still see facilities located in the Threat Area, and the Threat Area does not wipe out the D2PC isopleths.).

#### 4.6.1.5 Verify User Feedback

Verify the User Feedback option to report software enhancements or problems reports (SEPRs) with FEMIS can be sent directly to PNNL (`ranata.johnson@pnl.gov` [Ranata Johnson's E-mail address] or `blanche.wood@pnl.gov` [Blanche Wood's E-mail address]).

### 4.6.2 Cleanup AFTER Validation

**Note: Do not perform the following clean up procedures until completing the validation steps in Section 4.6.3, Perform on EVERY PC.**

After completing the above validations steps, the following cleanup validation steps need to be performed one time at an EOC, not on every PC.

#### 4.6.2.1 Ensure Exercise #1 Exists

Ensure Exercise #1 or another Exercise is recognized by EMIS has been created. This will allow EMIS to communicate with FEMIS in Exercise mode.

#### 4.6.2.2 Remove Extraneous FEMIS User Accounts

Remove extraneous FEMIS user accounts that were created during installation and validation. Be sure to leave the one user account, authorized by your System Administrator that will be used during the Shakedown Test.

### 4.6.3 Perform on EVERY PC

The following validation sections should be performed on every PC.

**Note:** Login to Windows as a user with `Administrator` privileges.

#### 4.6.3.1 Ensure FEMIS Login Security

If the PC has a `femis` account under Windows, make sure that the password is not set to `femis`.

#### 4.6.3.2 Verify the PC Configuration

Verify each of the following items to make sure the PC's configuration is correct.

- Icons left from previous installations of FEMIS but are no longer linked to a program should be removed from the `Start` → `Programs` → `Femis` folder.
- KeyPrint is in the `Startup` group for all users.
- Virtual memory maximum size is set to at least `250 MB`.
- The FEMIS startup file is called either in each user's profile or from the `All User Startup` folder.
- System Environment variable `FEMISTOPDIR` is defined and set to the directory where FEMIS is installed.

#### 4.6.3.3 Verify the PC Clock

Verify the PC clock by clicking `Start` → `Settings` → `Control Panel`→ `Regional Settings`. On the `Time` tab, make sure you are using either are a 24-hour clock (upper case "`H`" in the `Time Style` field) or a 12-hour clock (lower case "`h`" in the `Time Style` field) with the `AM` and `PM symbol` fields set to AM and PM (not case sensitive).

#### 4.6.3.4 Verify the Network Time Protocol (NTP) Service

To verify the Network Time Protocol (NTP) will synchronize with the server for small variations in time when the PC is booted up, complete the following steps:

- Click `Start` → `Programs` → `Administrative Tools` → `Event Viewer` to the Event View window. Under the `Log` menu item, select `Application`. Check for warning or error messages (yellow or red icon) with NTP as the source. Troubleshoot as necessary.
- Change the PC clock to a significantly different time (1 hour or more).
- Restart the PC (`Start` → `Shut Down` → `Restart the Computer`).
- Login and verify that the PC clock has been reset correctly.

- From a DOS prompt, enter the command `ntptrace`. This should return a list of the servers that are used to synchronize time to the PC. If this does not happen, see Section 4.2.6, Validating the I:\CONFIGD\NTP.CONF File for more information on this file.

  **Note: Do not use `Administrator` privileges** to perform the rest of the validation steps.

#### 4.6.3.5 Verify Login

For Windows, check to make sure a shortcut to FEMIS exists.

- Validate the ability to access the FEMIS application by double clicking on the `FEMIS` icon.
- Confirm that the correct default Site/EOC is highlighted.
- Enter a valid usercode and password. The Select Mode window should display.
- If there are Oracle problems with FEMIS from a particular Windows machine, check its path (`Control Panel` → `System Environmental Variables`). If there is an Oracle directory (i.e., `S:\EMISDYN\ORANT\BIN`) referenced that is not pointing to where FEMIS installed Oracle (either on the `C:\` or `D:\` drive), then this portion of the path must be removed. Check with the other software vendors, as appropriate, to be sure this will not cause problems to their software.
- Verify the ability to enter `Operations` mode.

#### 4.6.3.6 Verify Data Manager

Select `Start` → `Programs` → `FEMIS` → `Data Manager` to validate the access to the FEMIS Data Administration functionality. If the icon is not available, select `Start` → `Run` and enter or browse to `C:\FEMIS\FDATAMGR.EXE`.

#### 4.6.3.7 Verify the System Administration Utility

Select `Utility` → `System Utilities` → `System Admin` from the main FEMIS menu bar to validate the access to the system administration functionality.

#### 4.6.3.8 Verify D2PC

Complete the following steps to verify D2PC.

- Click D2PC on the Navigator. Be patient while the initial connection is made to the D2PC application and the FEMIS database. D2PC should come up with a default case and should be ready to run. Select `Edit` mode.

- Save the D2PC case.

  **Note:** Onpost users may get messages about sending the D2PC case offpost. Click `Yes`, and close the D2PC window.

#### 4.6.3.9 Verify Notification Service

On the Navigator, you should see a blinking icon (`New Data` button) that looks like a package. A magenta bar on the D2PC Function box should also appear. This means that FEMIS data notifications are being sent and passing messages to your PC. Click the `New Data` button.

#### 4.6.3.10 Verify GIS

Click the `Map` button from the FEMIS toolbar. The ArcView GIS application should start, and you should see a base map displayed within an ArcView GIS window.

To check the link between FEMIS and the GIS, select Facilities theme on the left side of the GIS window. Click the `i+` button on the ArcView GIS toolbar; and then click a facility icon on the map. A view-only facility/resource window should appear.

**Do not close the GIS** as it will be used in the following steps.

Check the CSEPP Emergency Zones upgrade by creating a Risk Area with all CSEPP zones at risk. Plot the Risk Area on the GIS. The CSEPP Emergency Zones should turn red.

Check the General Hazard Zones upgrade. Enter a hazard using the general hazard zones as a hazard layer, and create a Risk Area with all general hazard zones at risk. Plot the Risk Area on the GIS. The General Hazard Emergency Zones (the county theme) should turn red.

#### 4.6.3.11 Verify Evacuation

If the one-time validation steps have been successfully completed, there should be a current Evacuation case loaded when the Evacuation window is opened by selecting `Function` → `Evacuation` from the FEMIS Workbench Toolbar. If the network was previously created on this PC, you can observe the network displayed on the GIS. If Evacuation has not been previously executed on this PC, you will get a message telling you to create a network. On the Evacuation window, select `File` → `Create Network`, and the network is created and displayed on the GIS.

#### 4.6.3.12 Verify Electronic Planning

To verify that FEMIS Electronic Planning is working, click on `Utility` → `Planning Development`, and select a plan. Examine the Navigator window to be sure the validation plan has been selected. If you can do this without any error messages and tasks appear in the spreadsheet; then the Electronic Planning should work properly.

#### 4.6.3.13 Verify Help

Click the `Help` button to activate the online Help to verify the Help subsystem is working properly. All help files should be checked. This includes the on-line Troubleshooting Guide.

#### 4.6.3.14 Verify Printer

Verify KeyPrint was enabled at log in. Use KeyPrint or the `Print Screen` button on any FEMIS window to ensure the PC is properly connected to a printer.

#### 4.6.3.15 Verify FEMIS Tools

Verify on a FEMIS PC with System Tools installed. Click on each of the FEMIS Tools (`FEMIS Monitor PC`, `FEMISMon Watcher`, and `Network Monitor`) to ensure they are operational.

## FEMIS PC Installation Checklist

| | | | |
|---|---|---|---|
| **Machine Name:** | | | |
| **Admin Password:** | | | |
| | **Task** | **Notes** | **Initials** |
| 1 | 4.1.1 – Installing Windows 2000 Service Pack 2 or Windows NT 4.0 Service Pack 6 | | |
| 2 | 4.1.3 – Installing Oracle Net8 Client v8.1.6 and ODBC v8.1.6.2 (patches) | | |
| 3 | 4.1.5.1 – Installing ArcView GIS v3.1.1<br>4.1.5.2 – Installing ArcView GIS v3.1.1 Patch | | |
| 4 | 4.1.6 – Installing Other COTS; Site Specific | | |
| 5 | 4.2 – Configuring the FEMIS Setup Program (Once at Each EOC) | | |
| 6 | 4.2.9 – Updating the PC HOSTS File | | |
| 7 | 4.3 – Installing the FEMIS Client Software | | |
| 8 | 4.4.2 – Running the FEMIS Startup Files | | |
| 9 | 4.4.3 – Verifying Temporary Directory and Environment Variables | | |
| 10 | 4.4.4 – Verifying Clock Settings and Time Zone Settings | | |
| 11 | 4.4.5 – Verifying Virtual Memory Setting (Maximum to at least 384 for Windows 2000 and 250 for Window NT) | | |

## FEMIS PC Validation Checklist

| | | | |
|---|---|---|---|
| **PC Name:** | | | |
| **Validated using Window 2000 or Windows NT 4.0 Login:** | | | |
| **One Time at Each EOC:** | | **Notes** | **Initials** |
| 1 | Verify Default D2PC Case exists | | |
| 2 | Verify the Evacuation Command Server | | |
| 3 | Only on the server with the depot database, verify FEMIS/EMIS Data Exchange Interface (DEI) | | |
| 4 | Test the GIS on the printer | | |
| 5 | Verify User Feedback option | | |
| **Clean Up AFTER Validation:** | | | |
| 1 | Ensure Exercise #1 exists or whatever exercise is recognized by EMIS | | |
| 2 | Remove extraneous User Accounts s created during validation | | |
| **Perform on Every PC:** | | | |
| 1 | Ensure Windows login FEMIS/FEMIS does not exist | | |
| 2 | Verify the PC configuration | | |
| 3 | Verify the PC clock | | |
| 4 | Verify Network Time Protocol (NTP) service | | |
| 5 | Verify link to M:\ drive (for Evacuation) | | |
| 6 | Verify login | | |
| 7 | Verify Data Manager | | |
| 8 | Verify system administration | | |
| 9 | Verify D2PC | | |
| 10 | Verify notification service | | |
| 11 | Verify GIS | | |
| 12 | Verify ViewMarks | | |
| 13 | Verify Evacuation | | |
| 14 | Verify Help | | |
| 15 | Verify printer | | |
| 16 | Verify FEMIS Tools on appropriate PC(s) | | |