

AWIPS SOFTWARE INSTALLATION NOTE 72  
Maintenance, Logistics, and Acquisition Division  
W/OPS12: KS

**SUBJECT:** AWIPS Release OB8.2

**PURPOSE:** Provides installation instructions and related information for the software release.

**SITES AFFECTED:** All Weather Forecast Offices (WFO), River Forecast Centers (RFC), regional headquarters and National Centers for Environmental Prediction (NCEP).

**AUTHORIZATION:** The authority for this note is Request for Change (RC) 11036.

**VERIFICATION STATEMENT:** This procedure was tested and verified on test platforms at the National Headquarters in Silver Spring, MD (NMTW, NMTR, WNCF and NHOR), and the following operational platforms: Central Region Headquarters in Kansas City, MO (BCQ); Southern Region Headquarters in Ft. Worth, TX (EHU); Eastern Region Headquarters in Bohemia, NY (VUY); Alaska Region Headquarters in Anchorage, AK (VRH); Pacific Region Headquarters in Honolulu, HI (PBP), Weather Forecast Offices (WFO) Minneapolis, MN (MPX); Gray, ME (GYX), Greer, SC (GSP); Miami, FL (MFL); Norman, OK (OUN); Spokane, WA (OTX); Caribou, ME (CAR); Pittsburgh, PA (PBZ), River Forecast Centers (RFC) North Central in Minneapolis, MN (MSR); Northwest in Portland, OR (PTR), Northeast in Taunton, MA (TAR); and the Radar Operations Center in Norman, OK (OSFW).

**ESTIMATED COMPLETION DATE:** All sites should complete installation by March 31, 2008. The installation date must be scheduled on the NWS Oracle AWIPS Schedule calendar.

**TIME REQUIRED:** Approximately 3 to 4 hours, depending on the number of workstations. All Linux boxes will be rebooted after the installation.

**ACCOMPLISHED BY:** Electronic Systems Analysts (ESA) or their designee.

**EQUIPMENT AFFECTED:** AWIPS

**SPARES AFFECTED:** None.

**PARTS/MATERIALS REQUIRED:** AWIPS OB8.2 Software Installation DVD.

**SOURCE OF PARTS/MATERIALS:** Raytheon

**DISPOSITION OF REMOVED PARTS/MATERIALS:** Not Applicable.

**TOOLS AND TEST EQUIPMENT REQUIRED:** None.

DOCUMENTS AFFECTED:	File this note in EHB-13, Section 3.1. Discard all previous software installation instructions prior to Build OB7.2 (AWIPS Software Installation Instruction Note 65) in Section 3.1.  AWIPS Software Modification Note 70.
PROCEDURE:	These instructions are written for both RFC and WFO systems. As a result, some instructions may only be applicable to RFC systems, WFO systems or individual sites. Each step or section is clearly marked. <b>All steps are required unless otherwise directed in the instructions.</b>  Script log output files for this release are available at <a href="https://www.ops1.nws.noaa.gov/Secure/awips_software.htm">https://www.ops1.nws.noaa.gov/Secure/awips_software.htm</a>
TECHNICAL ASSISTANCE:	For questions or problems pertaining to this note, contact the Network Control Facility (NCF) at (301) 713-9344 and ask for OB8.2 installation support.
REPORTING INSTRUCTIONS:	Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in <a href="#">EHB-4, Maintenance Documentation</a> , Part 4, and Appendix F. Include the following information on the EMRS report:  Maintenance Description (block 5): <b>Install AWIPS Release OB8.2</b>  Equipment Code (block 7): <b>AWIPS</b>  Serial Number (block 8): <b>001</b>  Maintenance Comments (block 15): <b>Installed Release OB8.2 I.A.W. AWIPS Software Installation Instruction Note 72.</b>  Mod No. (block 17a): <b>S72</b>  A sample EMRS report is provided as attachment <b>G</b> .

Mark S. Paese  
Director, Maintenance, Logistics, and Acquisition Division

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## ATTACHMENT A - Pre-Installation Instructions

The identity of the system can be determined by checking the `$SITE_TYPE` variable. Each AWIPS also has a unique site name, which can be determined by checking the `$SITE_IDENTIFIER` variable.

### A.1 General Information

The OB8.2 installation includes new software for AWIPS major build OB8.2 at all sites.

#### A.1.1 Prerequisites

AWIPS OB8.1.1 Maintenance Release installation (as per AWIPS Software Modification Note 70) must be completed before proceeding with the OB8.2 installation.

#### A.1.2 WarnGen Information (WFO Systems Only)

The OB8.2 Release delivers 15 templates into the `/data/fxa/nationalData` baseline directory. Legacy (vintage OB8.1.1) customized WarnGen templates may be used after OB8.2 is installed until changes are merged into the updated templates. Additional information about the changes in the templates is included in Attachment C. This attachment should be provided to the WarnGen focal point at each WFO.

#### A.1.3 Mesocale Analysis and Prediction System Surface Assimilation System (MSAS) Accept/Reject Lists Information

The MSAS accept and reject lists will be overwritten with this installation. The files are `accept.txt` and `reject.txt` located in `/data/fxa/LDAD/fslparms`. A copy will be saved off with a `preOB82` extension.

Review the explanation in Attachment F for the changes being made with the accept/reject lists.

### A.2 Pre-Installation Procedures

Complete Sections A.2.1 through A.2.7 prior to beginning the core installation in Attachment B.

#### A.2.1 Coordinate Installation Date

Coordinate the installation with backup sites, uplink sites, hub site pairs, and Center Weather Service Units (CWSU), as applicable.

1. AWIPS will be unavailable for operational use during the installation. Coordinate with backup sites to arrange for service backup as needed.
2. Weather Wire uplink sites must ensure that the backup Weather Wire site(s) are not upgrading to this release concurrently. Contact the AWIPS Regional Focal Point to request assistance with this coordination.
3. Wide area network (WAN) hub sites must ensure that the corresponding hub site pair is not concurrently doing similar upgrades. Hub site pairs are BOX/CTP, EAX/TSA, MPX/ILN, FFC/LIX, STO/PQR and SLC/FWD. Contact the AWIPS Regional Focal Point to request assistance with this coordination.

4. Sites with connections to CWSUs must coordinate the installation of this release with those sites, since there will be a disconnection during the release installation.

### A.2.2 Download Files from the NOAA1 Server

Download the required OB8.2 National Data Management (NDM) files and other files that will be used in the installation. These files are placed in a safe directory until the main install day. Attachment D contains a list of the files downloaded in this step.

1. From a Linux Workstation, open a terminal window and log into **DX1** as `root`.
2. As user `root` from **DX1**, type the following commands:

```
mv /local/install/* /tmp
mkdir -p /data/local/nationalData
chown fxa:fxalpha /data/local/nationalData
chmod 775 /data/local/nationalData
cd /data/local/nationalData
mv /data/local/nationalData/* /tmp
```

**NOTE:** For the following `sftp` command, type **yes** to any system prompts about adding the RSA key.

```
sftp ftpawips@165.92.25.137 (Type in password !SAWIPS4 when prompted.)
cd pub/ndm/OB82
mget *                               (6 files are downloaded.)
(WFO Systems only. Download the dam break and fsi shapefiles)
cd ../../ob82
mget *                               (2 dam break files are downloaded.)
cd ../maps/fsi_shapefiles
get moveFSIshapefiles_OB82
cd xxx                               (xxx is localization ID in lower case.)
mget *                               (16 shapefiles are downloaded.)
exit
chown fxa:fxalpha *
chmod 775 *
```

**NOTE:** If the site has made localized changes to any of the NDM files listed in Attachment D, it is necessary to merge modifications into the downloaded files before the day of the install. Send changes that are applicable to Fran Curnow ([frances.curnow@noaa.gov](mailto:frances.curnow@noaa.gov)).

### A.2.3 Obtain/Verify Network Attached Storage Password

The `root` password for the Network Attached Storage (NAS) device will be needed in section B.2, step 8. Verify that the NAS password is current, and update as needed.

### A.2.4 (RFC Systems Only) Backup Changed Hydrologic Files

The following list of files on the **AX** server will be overwritten during the installation of the Hydrologic Deterministic Verification Software. If local modifications have been made to these files, save a copy and then manually merge in the changes after the install (section B.3.6):

```
/rfc_arc/verify/app-defaults/IVP_SYSTEM_FILE.txt
/rfc_arc/verify/app-defaults/IVPBB_SYSTEM_FILE.txt
/rfc_arc/verify/app-defaults/IVPRUNINFO_SYSTEM_FILE.txt
/rfc_arc/verify/input/oper/buildpairs_template.bat
/rfc_arc/verify/input/oper/natlstat_pairs_template.above.bat
/rfc_arc/verify/input/oper/natlstat_pairs_template.below.bat
/rfc_arc/verify/input/oper/natlstats_template.bat
```

In addition, the following file on **DX1** is overwritten,

```
/awips/hydroapps/lx/rfc/nwsrfs/ifp/scripts/fcst_script
```

### A.2.5 (RFC Systems Only) Modify Prototype Interactive Verification Program Software

**NOTE:** Only RFC Systems that have installed the OB8.2 prototype Interactive Verification Program (IVP) software should complete the steps in this section. Other RFC Systems must proceed to the next section.

If the site is running a prototype of the OB8.2 Interactive Verification Program (IVP) software (ATAN 877), remove the following links from the **AX** to allow proper installation of the baseline OB8.2 software:

```
/awips/hydroapps/lx/rfc/nwsrfs/util/bin/RELEASE/rfc.ohd.jar
/awips/hydroapps/lx/rfc/nwsrfs/util/bin/RELEASE/ChartDirector.jar
```

Additionally, in order to ensure that the existing `vfyruninfo` and `vfypairs` tables do not get changed by the archive database conversion script, alter the name until after the installation.

As user `oper` on **AX**, type the following commands:

```
psql -U postgres -d $(get_apps_defaults adb_name) -c "ALTER
TABLE vfyruninfo RENAME TO vfyruninfo_proto;"
```

```
psql -U postgres -d $(get_apps_defaults adb_name) -c "ALTER
TABLE vfypairs RENAME TO vfypairs_proto;"
```

By doing this, errors will occur when the archive database is converted to OB8.2 from OB7.2 due to these two tables being renamed and one other table, `vfyprocpairs`, already existing. These errors are expected and can be ignored. Once the installation is complete, execute the post-install steps in section B.3.7 in order to recover the original `vfyruninfo` and `vfypairs` tables.

### A.2.6 (RFC Systems Only) Check Token Settings

The National Weather Service River Forecast System (NWSRFS) Interactive Forecast Program (IFP) requires that the value of the `home_files_workstation` token be defined as the current hostname.

Complete the following procedure to verify if the token is properly defined:

1. As user `oper` on **LX1**, type the following command:

```
gad_w home_files_workstation
```

2. Compare to the output that follows, especially the items in bold.

```
lx1-nhor:oper:\l$ gad_w home_files_workstation
GET_APPS_DEFAULTS TOKEN:  home_files_workstation

GET_APPS_DEFAULTS REPLY:  lx1-nhor
===== not found in global environment
===== found in my personal apps "/home/oper/.Apps_defaults"
    home_files_workstation : lx1-nhor
                          <as>: $(HOSTNAME)
===== no file for program apps
===== not found in site apps "/awips/hydroapps/.Apps_defaults_site"
===== found in national apps "/awips/hydroapps/.Apps_defaults"
    home_files_workstation : ds
                          <as>: ds
```

- The output from `GET_APPS_DEFAULTS_REPLY` displays the resolved value of the `home_files_workstation` token.
- The output of the first occurrence of `found` points to the file that sets the value of the `home_files_workstation` token.
- The following line, which contains the `<as>`, lists an alias or specific value that is used to set the `home_files_workstation` token. This line must contain an alias in some form of `HOSTNAME` depending on which file it is defined in.
  - global environment     `$HOSTNAME`
  - personal apps         `$(HOSTNAME)`
  - site apps             `$(HOSTNAME)`
  - national apps         `$(HOSTNAME)`

If the value of the `home_files_workstation` token is not set to one of the values above, contact the RFC Support Group at (301) 467-2543.

### A.2.7 Check Software Installation DVD

Verify that the installation DVD is mountable and readable. If any errors are encountered mounting the DVD or reading files using the commands, contact the NCF at (301) 713-9344, and request OB8.2 Install support.

1. Insert the AWIPS OB8.2 Software DVD into the DX1 DVD-ROM drive.
2. As user `root` from **DX1**, type the following commands to mount and check the DVD:

```
mount /dev/cdrom
```

```
cd /media/cdrecorder
```

```
cat installLinux_OB82
```

(Verify output is displayed.)

```
cat gfe/INSTALLATION.html
```

(Verify output is displayed.)

```
cd /
```

```
eject /dev/cdrom
```

The pre-install steps are complete. On the scheduled install day, proceed to Attachment B for the main installation.

## ATTACHMENT B - Main Installation Instructions

### B.1 Preparation Instructions for the OB8.2 Software Upgrade

#### B.1.1 Time to Complete Install

Approximately 2 to 3 hours will be necessary to complete the installation scripts. After the updated kernel is installed, an additional hour will be needed to reboot all servers and workstations.

#### B.1.2 Notify the NCF

Before starting the installation, open a trouble ticket with the NCF by calling (301) 713-9344. If problems are encountered during the install, contact the NCF and ask for OB8.2 install support.

#### B.1.3 Prepare AWIPS for Software Upgrade

1. Initiate service backup, if needed.
2. Terminate all D2D sessions and log out of the **LX** workstations.
3. Log out of all text workstations, and terminate any local and AWIPS applications open.
4. **(PACE sites)** Switch off PACE input during the installation.
5. **(ASOS sites)** Prevent ASOS from dialing into LDAD by turning off the dial-in phone lines on the LDAD.
6. **(Radar sites)** Send a message indicating radar unavailability during the installation.
7. Sites with data feeds to the FAA should contact the FAA to notify them of the installation.
8. Weather Wire uplink sites should contact Dyncorp, and ensure a backup uplink site is not expected to be in service backup.
9. Sites with a CWSU connection should request that the CWSU log out of their D2D application. Unplug the wire to the CWSU.
10. Log into any workstation as `root`, open a terminal window, and log into **DX1** (as `root`).
11. **(RFC Systems only)** Stop the decoders on the AX server.

As user `root` on **DX1**, type:

```
ssh ax
su - oper
cd /rfc_arc/scripts/decoders
stop_raw_decoder
stop_processed_decoder
exit          (Returns to root on AX)
```

**exit** (Returns to `root` on `DX1`)

12. Run the script to move the NDM files into the proper location.

As user `root` on `DX1`, type:

```
script -a -f /local/install/moveOB82files.out
cd /data/local/nationalData
./moveob82files.sh (Takes < 1 minute.)
exit
```

13. Insert the OB8.2 AWIPS Software DVD into the `DX1` DVD drive.

14. As user `root` on `DX1`, type the following command to mount the DVD:

```
mount /dev/cdrom
```

## B.2 Installation Procedure for the OB8.2 Software Upgrade

This section is the core installation. Complete each step as directed.

1. Execute the following script to install AWIPS application software updates. Ignore any `signature: NOKEY` warnings from the FSI installation.

As user `root` on `DX1`, type:

```
script -a -f /local/install/installLinuxOB82.out
cd /media/cdrecorder
./installLinux_OB82 (Takes 40 to 60 minutes.)
exit
```

2. Start the security patch installation script. This will start parallel installations in the background on all hosts for the security patches. Processes will be monitored in step 7 for completion.

As user `root` on `DX1`, type:

```
script -a -f /local/install/installPatchesOB82.out
cd /media/cdrecorder
./installPatches_OB82 (Takes 1 to 3 minutes to kick off other scripts.)
exit
```

3. Execute the following script to install the Hydrology software. Ignore any `chmod` messages.

As user `root` on `DX1`, type:

```
script -a -f /local/install/installOHOB82.out
cd /media/cdrecorder
./installOH_OB82 (Takes 5 to 10 minutes. WFO systems 1 to 3 minutes.)
```

**exit**

4. **(WFO Systems only)** Execute the ADAPT and NWRWAVES scripts. Ignore `climate_HP.tar.gz` and `wwa_hp.tar.gz` error messages.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installADAPTOB82.out
```

```
cd /media/cdrecorder
```

```
./installADAPT_OB82 (Takes < 1 minute.)
```

```
cd NWRWAVES
```

```
./installNWRWAVES.sh (Takes < 1 minute.)
```

**exit**

5. **(RFC Systems only)** Execute the AX script to update the AX.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installAXOB82.out
```

```
cd /media/cdrecorder
```

```
./installAX_OB82 (Takes 10 to 15 minutes.)
```

**exit**

6. **(Select systems only)** Execute the NMAP script.

<p><b>NOTE:</b> Only the following sites should install the NMAP software: ACR, AFC, AFG, AJK, ALR, BCQ, EHU, FWR, GUM, HFO, KRF, MFL, MSR, NHCR, NHCW, NHDA, NHOR, NHOW, ORN, PBP, RHA, SJU, SPCW, TAR, TBDR, TIR, TUA, VHW, VRH, VUY, WNAW, WNOR, and WNOW.</p>
---

As user `root` on **DX1**, type:

```
script -a -f /local/install/installNMAPOB82.out
```

```
cd /media/cdrecorder
```

```
./installNMAP_OB82 (Takes 5 to 10 minutes.)
```

**exit**

7. Check the status of the security patch installation script that was started in step 2. It will take approximately 15 minutes for the security patches to be installed on all hosts. The logs for each machine are located in `/data/fixa/INSTALL`. As user `root` on **DX1**, type:

```
cd /media/cdrecorder
```

```
./monitorPatches_OB82
```

Repeat the command in 5 minute intervals until all hosts report completed.

**CAUTION**

**Do not proceed until all hosts report completed.**

8. Execute the post-install script. As user `root` on **DX1**, type:

```
script -a -f /local/install/postinstallOB82.out
cd /media/cdrecorder
./postinstall_OB82
```

(Takes 15 to 20 minutes.)

When prompted, enter the root password for the NAS.

```
exit
```

9. **(RFC systems only)** Execute the `VerifySSHkeys.sh` script on **PX1** to set up passwordless SSH for the `ifps` user. The number of open connections, determined via the `netstat` command, must be less than 500 in order for the `VerifySSHkeys.sh` script to run properly.

As user `root` on **DX1**, type:

```
rlogin px1
netstat -a | wc -l    (Verify output is <500. If >500, wait 5 minutes and try again.)
mv /local/install/* /tmp
script -a -f /local/install/VerifySSHkeys.out
cd /home/awipsadm/ssh
./VerifySSHkeys.sh
```

(Takes about 6 minutes)

Respond with `y` to all interactive prompts.

```
exit
```

(Exits script.)

```
exit
```

(Returns to DX1.)

10. **(RFC systems only)** Install the Climo, Topo and Maps for the GFE release. Replace the `LLL` in the command with the localization ID in capital letters. For the first three install scripts, ignore any errors for starting the `ifpServer`. The `ifpServer` will be installed completely by the next step.

**NOTE:** At the end of each script in this step, there will be FAIL and Abort errors in regards to `ifpServer`. To determine a successful install of each section, verify the output contains the following line prior to the errors: `OK - GFESuite data installed.`

As user `root` on **DX1**, type:

```
script -a -f /local/install/gfeClimo_OB82.out
cd /media/cdrecorder/gfeClimo
```

```
./masterGFEInstall_Climo LLL          (LLL is localization ID in upper case.)
exit                                     (Takes 3 to 8 minutes.)
script -a -f /local/install/gfeTopo_OB82.out
cd /media/cdrecorder/gfeTopo
./masterGFEInstall_Topo LLL          (Takes 1 to 2 minutes.)
exit
script -a -f /local/install/gfeMaps_OB82.out
cd /media/cdrecorder/gfeMaps
./masterGFEInstall_Maps LLL          (Takes 1 to 2 minutes.)
exit
```

11. **(All Systems)** Execute the GFE Core script. As user `root` on **DX1**, type:

```
script -a -f /local/install/gfeCOREOB82.out
cd /media/cdrecorder/gfe
./masterGFEInstall LLL          (LLL is localization ID in upper case.)
exit                                     (Takes 5 to 10 minutes. RFC Systems < 4 minutes.)
```

12. **(WFO Systems only)** Execute the IFPS install script. As user `root` on **DX1**, type:

```
script -a -f /local/install/installIFPSOB82.out
cd /media/cdrecorder/ifps
./installIFPS                          (Takes approximately 5 minutes.)
exit
```

13. **(WFO Systems only)** Execute the AVNFPS script to install version 3.5 of AVNFPS.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installAVNFPSOB82.out
cd /media/cdrecorder
./installAVNFPS.sh /media/cdrecorder    (Takes < 1 minute.)
exit
```

14. Install the 2.6.9-55.0.2 kernel. As user `root` on **DX1**, type:

```
script -a -f /local/install/OB82-kernel.out
scp -qr /media/cdrecorder/kernel-55 /data/fxa/INSTALL
cd /data/fxa/INSTALL/kernel-55
```

```
./install_rpms_kernel.sh      (Takes 10 to 20 minutes.)  
./verify_install_kernel.sh    (Takes about 2 minutes.)
```

Take notice of any WARNING messages during the verify script, and make note of the device and contact the NCF. Warnings during the verify script indicate devices which might not boot up into the new kernel when it is rebooted.

```
cd  
rm -rf /data/fxa/INSTALL/kernel-55  
exit
```

15. Remove obsolete library. As user `root` on **DX1**, type:

```
script -a -f /local/install/removeBadLib.out  
/home/ncfuser/removeBadLib.sh      (Takes <1 minute.)  
exit
```

16. Unmount the DVD from the DX1 DVD-ROM drive. As user `root` on **DX1**, type:

```
cd /  
eject /dev/cdrom
```

17. Remove the DVD from the DX1 CD-ROM drive.

## B.3 Post Install

### B.3.1 Reboot Hosts

An NVIDIA patch was installed on the LX workstations, and a new kernel was installed on all devices, so each device needs to be rebooted to complete the installation. Contact the NCF if any problems occur during the reboot process.

1. Reboot DX1. As user `root` on **DX1**, type:

```
shutdown -r now  
exit      (Returns to Linux Workstation.)
```

Verify DX1 has rebooted before proceeding. One way is to observe the boot process on the KVM monitor.

2. Reboot DX2, DX3, and DX4. As user `root` on **DX1**, type:

```
ssh dx2 "shutdown -r now"  
ssh dx3 "shutdown -r now"  
ssh dx4 "shutdown -r now"
```

Verify DX2, DX3, and DX4 have rebooted before proceeding. One way is to ping DX2, DX3, and DX4 from DX1.

3. Reboot PX1 and PX2. As user `root` on **DX1**, type:  

```
ssh px1 "shutdown -r now"  
ssh px2 "shutdown -r now"
```
4. **(Sites AFC and VRH only)** Reboot PX3 and PX4. As user `root` on **DX1**, type:  

```
ssh px3 "shutdown -r now"  
ssh px4 "shutdown -r now"
```
5. **(RFC Systems with RP processors only)** Reboot RP1 and RP2.  
As user `root` on **DX1**, type:  

```
ssh rp1 "shutdown -r now"  
ssh rp2 "shutdown -r now"
```
6. Reboot AX. As user `root` on **DX1**, type:  

```
ssh ax "shutdown -r now"
```
7. Reboot CPSBN1 and CPSBN2. As user `root` on **DX1**, type:  

```
ssh cpsbn1 "shutdown -r now"  
ssh cpsbn2 "shutdown -r now"
```
8. Reboot all LX and XT workstations. Select reboot from the main window on each box or use similar shutdown commands as in earlier steps.
9. Verify that all servers and workstations have successfully rebooted prior to proceeding.

### B.3.2 Restore Apps packages

Verify that all of the apps packages on the DX, PX and RPs are running on the primary server.

Use the `hb_stat` command to verify the packages are running on the correct server. If not, login to the server the package should run on and execute `hb_swap xxxapps`, where `xxx` is the server name (e.g., from DX2, run `hb_swap dx2apps` to move the package onto DX2).

### B.3.3 Restore the System

Complete or review the following steps to return the system to full operation.

1. Permit users to logon to AWIPS.
2. **(PACE sites)** Turn the PACE input back on.
3. **(ASOS sites)** Turn on the dial-in phone lines to allow ASOS to access LDAD.
4. **(Radar sites)** Send a message regarding the return to service of the radar.
5. Baseline crons (such as the `px1cron`) were delivered during the install. Verify crons such as `climate` are set to the proper run time.

6. Start the Mozilla browser and verify that servers and processes are processing normally.
7. Verify that radar products are being stored locally. Sites that send radar products should verify radar products are disseminated via the WAN by checking the following site:  
<http://weather.noaa.gov/monitor/radar>
8. Restore the CWSU connection, if applicable, and relay to CWSU staff of system availability.

#### B.3.4 Notify the NCF

Contact the NCF and close the trouble ticket that was opened for the installation.

#### B.3.5 (WFO Systems Only) Update Customized WarnGen Templates

Legacy (vintage OB8.1.1) customized WarnGen templates may be used after OB8.2 is installed. However, the changes should be merged into the templates as soon as practical. The new dam information functions will not be implemented until the OB8.2 dam break templates and the new file, `/data/fix/customFiles/LLL-dam_info.txt`, are created. Additional information is included in Attachment C.

#### B.3.6 (RFC Systems Only) Restore Changes Made to Hydrologic Files

The Hydrologic Deterministic Verification Software installation included updated files. If local changes were saved in section A.2.4, merge the local changes into the new files.

#### B.3.7 (RFC Systems Only) Incorporate Prototype IVP files into Official

Sites that previously installed the prototype OB8.2 IVP software (ATAN 877) need to recover the original `vfyrinfo` and `vfypairs` tables, which were renamed during the pre-install, section 0.

1. As user `oper` on **AX**, type the following commands:

```
psql -U postgres -d $(get_apps_defaults adb_name) -c "ALTER
TABLE vfyrinfo_proto RENAME TO vfyrinfo;"
```

```
psql -U postgres -d $(get_apps_defaults adb_name) -c "ALTER
TABLE vfypairs_proto RENAME TO vfypairs;"
```

2. Copy the input batch files, template files, and output files from the prototype directory structure into the official directory structure in order to use the official software. The copy command will overwrite any existing files.

As user `oper` on **AX**, type the following commands:

```
cp -r /awips/hydroapps/lx/rfc/verify/input/* /rfc_arc/verify/input/.
```

```
cp -r /awips/hydroapps/lx/rfc/verify/files/* /rfc_arc/verify/files/.
```

```
cp -r /awips/hydroapps/lx/rfc/verify/output/* /rfc_arc/verify/output/.
```

If system settings were modified, copy over those files:

```
cp -r /awips/hydroapps/lx/rfc/verify/app-defaults/*
/rfc_arc/verify/app-defaults/.
```

3. Remove the token `verify_dir` from the apps-defaults site file prior to running the official version of the software to ensure that the national default setting is used. The `verify_dir` token must point to `/rfc_arc/verify` to run the official OB8.2 IVP software.

### B.3.8 Remove Hurricane Local Statement Customizations

Significant changes were made to the Hurricane Local Statement (HLS) formatter. Previous customizations are incompatible to the change. Locate and remove old customizations as applicable.

As user `root` on **DX1**, type the following command:

```
find /awips/GFESuite | grep HLS
```

Any files appearing in a directory named `SITE` or a subdirectory of `SITE` will likely be a local customization.

### B.3.9 (WFO Systems Only) FSI Shapefile Activation

Activate the local shapefiles for the Four Dimensional Storm Cell Investigator (FSI) application. The script will copy the 16 shapefiles in `/data/local/nationalData` to `/awips/fxa/fsi/shapefiles` on each LX workstation.

As user `root` on **DX1**, type the following commands:

```
cd /data/local/nationalData  
./moveFSIshapefiles_OB82
```

### B.3.10 Run Backup Localization

A backup localization needs to be run (as user `fxa`) on each workstation before WarnGen can be used in backup mode. An example of the command to use is:

```
cd /awips/fxa/data/localization/scripts  
./mainScript.csh f -WS BBB LLL
```

(Where `BBB` is the backup site and `LLL` is the local site ID.)

### B.3.11 Provide Comments (optional)

Send any comments, problems, or suggestions for improvements to the installation instructions to Sanford Garrard [sanford.garrard@noaa.gov](mailto:sanford.garrard@noaa.gov) of the AWIPS Support Branch at NWS Headquarters in Silver Spring, MD.

## ATTACHMENT C - WarnGen Template and Configuration Changes

### C.1 Overview

This attachment should be provided to the WarnGen focal point at each WFO.

Legacy (vintage OB8.1.1) customized WarnGen templates may be used after OB8.2 is installed. However, updates should be merged into the templates as soon as practical. A new WarnGen feature in OB8.2 allows the creation of dam break non-convective FFWs and FFSs using locally defined dam-specific text. OB8.2 delivers related changes to the WarnGen GUI and two WarnGen dam break templates. In addition, a new WarnGen configuration file template (*LLL-dam\_info.txt*) is delivered. This file contains site-specific dam information and must be customized by each site. The new dam information functions will not be implemented until the OB8.2 dam break templates and the new file `/data/fxa/customFiles/LLL-dam_info.txt` is created.

#### C.1.1 Major Changes

Some OB8.2 WarnGen templates contain major changes and some templates contain only minor changes. The best method to implement the templates containing major changes would be to copy the baseline OB8.2 templates to `/data/fxa/customFiles`, add the site specific changes, then localize the workstations using `./mainScript.csh -wwa`. The following OB8.2 templates contain major changes:

```
wwa_dam_break.preWWA
wwa_flflood_sta.preWWA
```

To implement the new dam break feature in which site specific information can be selected from the WarnGen **Optional Bullets** menu, a custom version of the file `/data/fxa/customFiles/LLL-dam_info.txt` must be created. Replace *LLL* with the local site ID, i.e., by the value of environment variable `FXA_LOCAL_SITE`. A template version of the *LLL-dam\_info.txt* file and a Microsoft Word document (`ASM_UMD_DCS3388.doc`) with dam configuration instructions are located in `/data/local/nationalData`. These two files were downloaded from the NOAA1 server in the OB8.2 pre-installation section A.2.2.

#### C.1.2 Minor Changes

The best method to implement the templates containing minor changes (six lines or fewer changed) would be to add the OB8.2 changes to the custom templates located in `/data/fxa/customFiles`, then localize the workstations using `./mainScript.csh -wwa`. The following OB8.2 templates contain minor changes:

```
wwa_ffw.preWWA
wwa_ffw_svr.preWWA
wwa_flflood_sta_county.preWWA
wwa_mar_wx_sta.preWWA
wwa_svr.preWWA
wwa_tor.preWWA
wwa_svrwx_sta_county.preWWA
```

## C.2 Description of Template Changes

The following template changes are included with the release:

1. Extensive logic is added to allow the insertion of dam information into the non convective Flash Flood templates. This new functionality is documented in OSIP project 06-033. The changes are contained in the following templates:

```
wwa_dam_break.preWWA  
wwa_flflood_sta.preWWA
```

2. OB8.2 was to include a new CTA option to produce an automated list of drainage basins in all WarnGen hydrologic products. A new FFMP shape file plus WarnGen template logic changes are needed to implement this function. However, the new shape file won't be available until OB8.3. Consequently, Discrepancy Report 19181 documents the removal of the drainage basin logic from all OB8.2 hydrologic templates. The drainage basin CTA logic (four lines) have been commented out in each of the following nine OB8.2 templates:

```
wwa_dam_break.preWWA  
wwa_flflood_sta.preWWA  
wwa_ffw.preWWA  
wwa_ffw_svr.preWWA  
wwa_flflood_sta_county.preWWA  
wwa_flood_wrn.preWWA  
wwa_flood_sta.preWWA  
wwa_flood_adv.preWWA  
wwa_flood_adv_sta.preWWA
```

3. Incorrect grammar sometimes occurs in the third bullet describing the current storm location, such as "ABOUT NEAR SPRINGFIELD." The word "ABOUT" was removed. AWIPS Discrepancy Report 18565 documents this change. The following six templates contain this change:

```
wwa_ffw.preWWA  
wwa_ffw_svr.preWWA  
wwa_flflood_sta_county.preWWA  
wwa_svr.preWWA  
wwa_tor.preWWA  
wwa_svrwx_sta_county.preWWA
```

4. Incorrect expiration wording is fixed in the marine and severe weather statement templates. The incorrect wording is that the warning "will expire." The correct phrase is "has expired." The hydrologic templates already contain the correct logic. AWIPS Discrepancy Report 18592 documents this change. The following two templates contain this change:

```
wwa_mar_wx_sta.preWWA  
wwa_svrwx_sta_county.preWWA
```

### C.3 Description of Logic Changes

1. To implement the new dam break feature (in which site specific information can be selected from the WarnGen *Optional Bullets* menu), a custom version of the file `/data/fxa/customFiles/LLL-dam_info.txt` must be created. `LLL` should be replaced by the site ID, i.e., by the value of environment variable `FXA_LOCAL_SITE`. Also, a pre-defined threat polygon can be defined and drawn on D2D using a new WarnGen GUI button **Redraw Box on Screen from: Dam Break Threat Area**. A template version of the `LLL-dam_info.txt` file and a Microsoft Word document (`ASM_UMD_DCS3388.doc`) with dam configuration instructions are located in `/data/local/nationalData`. These two files were downloaded from the NOAA1 server in the pre-installation section A.2.2.
2. Partial service backup is removed from the WarnGen GUI. Further information is provided at the following web page:  
<http://www-sdd.fsl.noaa.gov/~ramer/noaa/removePartialBackup/removePartialBackup.html>
3. To enhance the description of parts of counties in storm based warnings, OB8.2 introduces greater ability to configure how parts of counties are described. A configuration file can be created to specify for each county how partial sections are described. The baseline 9 portions can be used (central, northern, northeastern, eastern, etc.), only 3 portions can be used (northern, central, southern or western, central, eastern), or the portions can be completely disabled. Further information is provided at the following web page:  
<http://www-sdd.fsl.noaa.gov/~ramer/noaa/wbpBasins/wbpBasins.html>

### C.4 Line By Line Differences Between OB8.1.1 and OB8.2 WarnGen Templates

The following is annotated output (annotations in bold italics) from the Linux `diff` command showing the line by line differences between OB8.1.1 WarnGen templates and OB8.2 templates. Lines beginning with `<` are from OB8.1.1 and lines beginning with `>` show the corresponding OB8.2 items.

**NOTE:** There are plans to remove the logic that generates the phrase "THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES" from the final version of the OB8.2 hydrologic templates.

```
***** wwa_dam_break.preWWA *****
32c32
< {***** primary cause (choose 1) ***** }
---
> {***** PRIMARY CAUSE (choose 1) ***** [lock X.eq.X]}
99a100,158
> {<PCAUSE>=IMMINENT FAILURE= dam break - imminent failure |
> <VAR |lead=THE IMMINENT FAILURE OF | var=damBreak>
> <VAR |lead=DM |var=imCause>
> }
```

```

>
> {<PCAUSE>=THE FAILURE OF= dam break - failure has occurred |
> <VAR |lead=THE FAILURE OF | var=damBreak>
> <VAR |lead=DM |var=imCause>
> }
> {*****[lock X.eq.X]}
> {* The next two sections apply only if one of the dam break *[lock X.eq.X]}
> {* causes was selected. Choose one reporter, one dam, and *[lock X.eq.X]}
> {* optionally one associated scenario and the rule of thumb. *[lock X.eq.X]}
> {*****[lock X.eq.X]}
> {***** DAM FAILURE REPORTED BY (choose 1) ***** [lock X.eq.X] }
> <VAR | value=radio |var=REPORTER__lock>
> <VAR |lead=!** **! | var=reporter>
> {<REPORTER>=COUNTY DISPATCH= county dispatch |
> <VAR | lead=COUNTY DISPATCH | var=reporter>
> }
> {<REPORTER>=LAW ENFORCEMENT= law enforcement |
> <VAR | lead=LAW ENFORCEMENT | var=reporter>
> }
> {<REPORTER>=CORPS OF ENGINEERS= corps of engineers |
> <VAR | lead=THE CORPS OF ENGINEERS | var=reporter>
> }
> {<REPORTER>=DAM OPERATOR = dam operator |
> <VAR | lead=THE DAM OPERATOR | var=reporter>
> }
> {<REPORTER>=BUREAU OF RECLAMATION= bureau of reclamation |
> <VAR | lead=THE BUREAU OF RECLAMATION| var=reporter>
> }
> {<REPORTER>=THE PUBLIC= the public |
> <VAR | lead=THE PUBLIC| var=reporter>
> }
>
> { ***** DAM & DAM BREAK SCENARIOS (choose 1) ***** [lock X.eq.X] }
> <VAR|lead=!** **! DAM | var=damInfo>
> <VAR|lead=!** **! DAM ON THE !** **! RIVER |

```

```

> var=riverInfo>
> <VAR|lead=!** **! COUNTY |
> var=countyInfo>
> <VAR|lead=!** **! |
> var=stateInfo>
> <VAR|lead=THE NEAREST DOWNSTREAM TOWN IS !** **! ...
> LOCATED !** **! MILE FROM THE DAM. IF YOU ARE IN THE
> LOW LYING AREAS BELOW THE !** **! DAM YOU
> SHOULD MOVE TO HIGHER GROUND IMMEDIATELY.|
> var=addInfo>
>
> #include "$FXA_CUSTOM_FILES/${FXA_LOCAL_SITE}-dam_info.txt"
> { [X$$damBreak!X.ne.XX] |
> <VAR | value=radio |var=SCENARIO__lock>
> <VAR | value=radio |var=DAMNAME__lock>
> <VAR | value=radio |var=ROT__lock>
> <VAR |lead= $$damBreak! $$damInfo! WAS REPORTED BY $$reporter! .&&|
> var=actions>
> }
>
112a172
> { [X$$damBreak!X.eq.XX] |
136c196
< |lead=%%* AFFECTED LOCATIONS INCLUDE~
---
> |lead=%%* LOCATIONS IMPACTED INCLUDE~
140a201,205
> }
>
> { [X$$damBreak!X.ne.XX] |
> * FLASH FLOOD WARNING FOR $$riverInfo! IN...&
> ~-$$countyInfo! IN $$stateInfo! .&
142c207,221
< { ***** CALLS TO ACTION (CHOOSE 1 OR MORE) ***** | }
---

```

```

> * UNTIL <EXPIRE | clock | local |interval=5>
>
> * AT <NOW | clock | local>...$$actions!
>
> * $$addInfo! $$commonAddInfo!
>
> $$ruleOfThumb!
> }
>
> { ***** CALLS TO ACTION (choose 1 or more) ***** [lock X.eq.X] }
>
> //{= automated list of drainages |
> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&
> //<AREA |file=wwa_basins |area=wwa_counties |output_field=1 |format=list>.
> //}
189a269,270
> $$coords!
> { [X$$coords!X.eq.XX] |
190a272
> }
***** wwa_flflood_sta.preWWA *****
21c21
< {<PCAUSE>***** primary cause ***** }
---
> {***** PRIMARY CAUSE (choose 1) ***** [lock X.eq.X]}
50a51,58
> {<PCAUSE>=IMMINENT FAILURE= dam break - imminent failure |
> <VAR |lead=THE IMMINENT FAILURE OF | var=textCause>
> }
>
> {<PCAUSE>=THE FAILURE OF= dam break - failure has occurred |
> <VAR |lead=THE FAILURE OF | var=textCause>
> }
>
52a61,93

```

```

> {*****[lock X.eq.X]}
> {* The next two sections apply only if one of the dam break *[lock X.eq.X]}
> {* causes was selected. Choose one reporter, one dam, and *[lock X.eq.X]}
> {* optionally one associated scenario and the rule of thumb. *[lock X.eq.X]}
> {*****[lock X.eq.X]}
> {***** DAM FAILURE REPORTED BY (choose 1) ***** [lock X.eq.X]}
> <VAR | value=radio |var=REPORTER__lock>
> <VAR |lead=!** **! | var=reporter>
> {<REPORTER>=COUNTY DISPATCH= county dispatch |
> <VAR | lead=COUNTY DISPATCH | var=reporter>
> }
> {<REPORTER>=LAW ENFORCEMENT= law enforcement |
> <VAR | lead=LAW ENFORCEMENT | var=reporter>
> }
> {<REPORTER>=CORPS OF ENGINEERS= corps of engineers |
> <VAR | lead=THE CORPS OF ENGINEERS | var=reporter>
> }
> {<REPORTER>=DAM OPERATOR= dam operator |
> <VAR | lead=THE DAM OPERATOR | var=reporter>
> }
> {<REPORTER>=BUREAU OF RECLAMATION= bureau of reclamation |
> <VAR | lead=THE BUREAU OF RECLAMATION| var=reporter>
> }
> {<REPORTER>=THE PUBLIC= the public |
> <VAR | lead=THE PUBLIC| var=reporter>
> }
>
> { ***** DAM & DAM BREAK SCENARIOS (choose 1) ***** [lock X.eq.X]}
> <VAR | value=radio |var=SCENARIO__lock>
> <VAR | value=radio |var=DAMNAME__lock>
> <VAR | value=radio |var=ROT__lock>
> #include "$FXA_CUSTOM_FILES/${FXA_LOCAL_SITE}-dam_info.txt"
>
90c131
< ...A FLASH FLOOD WARNING FOR $$textCause! REMAINS IN EFFECT UNTIL

```

```

---
> ...A FLASH FLOOD WARNING FOR $$textCause! $$damInfo! REMAINS IN EFFECT UNTIL
95c136
< ...THE FLASH FLOOD WARNING FOR $$textCause! HAS BEEN CANCELLED
---
> ...THE FLASH FLOOD WARNING FOR $$textCause! $$damInfo! HAS BEEN CANCELLED
100c141
< ...THE FLASH FLOOD WARNING FOR $$textCause! $$expPhrase!
---
> ...THE FLASH FLOOD WARNING FOR $$textCause! $$damInfo! $$expPhrase!
105,107c146
< { [$$ACT_VAL!.eq.CON] |
< AT < NOW | clock | local>...$$textCause2!
<
---
> { [X$$coords!X.eq.XX]}
109c148
< |lead=AFFECTED LOCATIONS INCLUDE~
---
> |lead=LOCATIONS IMPACTED INCLUDE~
111c150,160
< |include_field=2 |include_text=3>
---
> |include_field=2 |include_text=3 |var=locationInfo>
> }
>
> { [X$$coords!X.ne.XX]}
> <VAR |lead=LOCATIONS IMPACTED INCLUDE $$cityInfo!.
> |var=locationInfo>
> }
>
> { [$$ACT_VAL!.eq.CON] |
> AT < NOW | clock | local>...$$textCause2! &&
> $$locationInfo!
115a165,169

```

```

> //{= automated list of drainages |
> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&
> //<AREA |file=wwa_basins |area=wwa_counties |output_field=1 |format=list>.
> //}
>
161a216,217
> $$coords!
> { [X$$coords!X.eq.XX] |
162a219
> }
***** wwa_ffw.preWWA *****
99c99
< |no_same |lead=...OR ABOUT~ |
---
> |no_same |lead=...OR~ |
159a160,164
> //{= automated list of drainages |
> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&
> //<AREA |file=wwa_basins |area=wwa_counties |output_field=1 |format=list>.
> //}
>
***** wwa_ffw_svr.preWWA *****
154c154
< |no_same |lead=...OR ABOUT~ |
---
> |no_same |lead=...OR~ |
199a200,204
> //{= automated list of drainages |
> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&
> //<AREA |file=wwa_basins |area=wwa_counties |output_field=1 |format=list>.
> //}
>
***** wwa_fflood_sta_county.preWWA *****
202c202
< |no_same |lead=...OR ABOUT~ |

```

---

> |no\_same |lead=...OR~ |

265a266,270

> //{= automated list of drainages |

> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&

> //<AREA |file=wwa\_basins |area=wwa\_counties |output\_field=1 |format=list>.

> //}

>

\*\*\*\*\* wwa\_flood\_wrn.preWWA \*\*\*\*\*

**(Changes are comments only. They do not need to be incorporated into custom Files)**

99a100,104

> //{= automated list of drainages |

> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&

> //<AREA |file=wwa\_basins |area=wwa\_counties |output\_field=1 |format=list>.

> //}

>

\*\*\*\*\* wwa\_flood\_sta.preWWA \*\*\*\*\*

**(Changes are comments only. They do not need to be incorporated into custom Files)**

127a128,132

> //{= automated list of drainages |

> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&

> //<AREA |file=wwa\_basins |area=wwa\_counties |output\_field=1 |format=list>.

> //}

>

\*\*\*\*\* wwa\_flood\_adv.preWWA \*\*\*\*\*

91a92,96

**(Changes are comments only. They do not need to be incorporated into custom Files)**

> //{= automated list of drainages |

> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&

> //<AREA |file=wwa\_basins |area=wwa\_counties |output\_field=1 |format=list>.

> //}

>

\*\*\*\*\* wwa\_flood\_adv\_sta.preWWA \*\*\*\*\*

116a117,121

**(Changes are comments only. They do not need to be incorporated into custom Files)**

```

> //{= automated list of drainages |
> //THIS INCLUDES THE FOLLOWING STREAMS AND DRAINAGES...&
> //<AREA |file=wwa_basins |area=wwa_counties |output_field=1 |format=list>.
> //}
>
**** wwa_specmarine.preWWA ****
The OB8.2 template has no changes compared to OB8.1.1, however it is delivered in OB8.2.
**** wwa_mws_nosmw.preWWA ****
The OB8.2 template has no changes compared to OB8.1.1, however it is delivered in OB8.2.
**** wwa_mar_wx_sta.preWWA ****
11a12,17
> <NOW |abstime |var=nowtime>
> <EXPIRE |abstime |var=exptime>
> <VAR |lead=HAS EXPIRED |var=expPhrase>
> { [$$nowtime!.lt.$$exptime!] |
> <EXPIRE |lead=WILL EXPIRE AT~ |clock | local |var=expPhrase>}
>
43c49
< ...SPECIAL MARINE WARNING EXPIRES AT <EXPIRE | clock | local >...
---
> ...SPECIAL MARINE WARNING $$expPhrase!...
**** wwa_svr.preWWA ****
144c144
< |no_same |lead=...OR ABOUT~ |
---
> |no_same |lead=...OR~ |

**** wwa_tor.preWWA ****

100c100
< |no_same |lead=...OR ABOUT~ |
---
> |no_same |lead=...OR~ |
**** wwa_svrwx_sta_county.preWWA ****
11a12,17

```

```
> <NOW |abstime |var=nowtime>
> <EXPIRE |abstime |var=exptime>
> <VAR |lead=HAS EXPIRED |var=expPhrase>
> { [$$nowtime!.lt.$$exptime!] |
> <EXPIRE |lead=WILL EXPIRE AT~ |clock | local |var=expPhrase>}
>
67c73
< $$cntyList! EXPIRES AT <EXPIRE | clock | local >...&
---
> $$cntyList! $$expPhrase!...&
186c192
< |no_same |lead=...OR ABOUT~ |
---
> |no_same |lead=...OR~ |
```

**ATTACHMENT D - Files Downloaded in OB8.2**

The following National Data Management (NDM) files are downloaded from the NOAA1 server for the OB8.2 installation:

dataInfo.manual  
depictInfo.manual  
productButtonInfo.txt  
prodList.txt  
redbookHPCMenus.txt  
moveOB82files.sh

The following WarnGen Dambreak Configuration files are downloaded from the NOAA1 server for the OB8.2 installation:

ASM\_UMD\_DCS3388.doc  
LLL-dam\_info.txt

The following FSI shapefiles are downloaded from the NOAA1 server for the OB8.2 installation:

cwacnty.dbf  
cwacnty.shp  
cwa.dbf  
cwa.shp  
rivers.dbf.gz  
rivers.shp.gz  
routes.dbf.gz  
routes.shp.gz  
states.dbf.gz  
states.shp.gz  
urban\_bounds.dbf  
urban\_bounds.shp  
usa\_cities.dbf  
usa\_cities.shp  
usa\_lake.dbf  
usa\_lake.shp.shp

## ATTACHMENT E - Known Issues and Workarounds for the Kernel Installation

### E.1 Devices Hanging

Occasionally a device will hang during the Kernel upgrade. Periodically monitor the progress of the machines (every 10 minutes is recommended). If any machine hangs, reboot and the installation should resume.

### E.2 Kernel Panic

Occasionally a device fails to start-up after the post-install reboot, because the new kernel did not install properly. A message of `kernel panic` is displayed on the screen. If this happens, contact the NCF immediately.

### E.3 GRand Unified Bootloader (GRUB) prompt only

If the system fails to boot even before the Red Hat picture shows up, (for example, if there is only a `grub` prompt on a black screen and nothing else), use the following procedure to get a usable shell on the system

1. Put a Linux Rescue CD into the CD (or DVD) drive of the failed machine and reboot. By default the machine should boot from the CD and Redhat logo and a `boot` prompt displays on the screen. If the system still tries to boot from the hard drive, contact the NCF about how to boot from the CD.
2. When the `boot` prompt displays, type `linux rescue` and press **Enter**. This boots the system into rescue mode instead of installation mode.
3. Once inside rescue mode, the rescue process asks about which language to use during the rescue process. By default, English should be chosen, press **Enter** to continue.
4. The rescue process then asks for the keyboard type being used. By default, US should be selected, press **Enter** to continue.
5. The prompt, *Do you want to start the network interface on this system?* displays. By default, *Yes* is highlighted. However, choosing *Yes* may crash the system, so press the right arrow key (→) to highlight **No**, and press **Enter** to continue.
6. The prompt, *The rescue environment will now attempt to find your Linux installation and mount it under the directory /mnt/sysimage ...* displays and asks if the user wants to continue, mount the file system as read-only, or skip this step. By default **Continue** should be highlighted. Press **Enter** to continue.
7. The rescue process tries to find partitions and mount them properly. Once successful, the message, *Your system has been mounted under /mnt/sysimage* displays. Press **Enter** to get a shell. If it cannot find the proper partitions containing Red Hat Enterprise Linux, usually it is due to disk failure. Contact NCF for assistance if this occurs.
8. A running shell should now be on the machine. Consult the following actions to determine what needs to occur on this system to proceed.

- If the device is a PX server, run the following commands:

```
chroot /mnt/sysimage
grub
root (hd0,1)
setup (hd0)
quit
```

**NOTE:** `hd0` is `hd(zero)`, not the alphabet `O`.

**Reboot the device.** If this method does not resolve the problem, contact the NCF for further assistance.

- If the device is any other box besides the PX servers, run the following commands:

```
chroot /mnt/sysimage
grub-install hd0
exit
```

**NOTE:** `hd0` is `hd(zero)`, not the alphabet `O`.

**Reboot the device.** If this method does not resolve the problem, contact the NCF for further assistance.

9. Once the fixes are completed, type **exit** and press **Enter**.

## ATTACHMENT F - MSAS Reject List Changes

An important change has been made in the reject list used for subjective intervention in the MSAS Quality Control and Monitoring System. There are now two lists:

1. The original list with static entries that are created manually.
2. A new, automated list is created once a week. The failure rate from the weekly QC statistics is used to put station/variable pairs onto the list, and take them off the list, using percent thresholds specified by the user. This feature can also be disabled by the user, if so desired.

The usage of the reject list has also been changed. Now, all variables that are derived from primary variables on the list should also be placed onto the list. The comments at the bottom of the `reject.txt` file list the derived variables and show which primary variables are used in the derivations. The recommended `reject.txt` file entries have been modified so that they comply with this recommendation. Modify any locally-defined entries accordingly and merge them into the new `reject.txt` file.

The original, static list is `/data/fxa/LDAD/fslparms/reject.txt`. This file has been changed to include the current recommendations of the MSAS team as to what station/variable pairs should be on the static list. If this list has been modified outside of the AWIPS build upgrade process, and the site wants their changes placed on the static list (not subject to removal from the list because of good QC results) they must merge their modifications in with the file newly installed on their systems.

The new automated list is `/data/fxa/LDAD/fslparms/autorej.txt`. The thresholds used, and the enable/disable switch, can be found at the bottom of `reject.txt`.

ATTACHMENT G - Sample EMRS Report

New A26 Commit A26 Place on Hold Cgpy A26 Delete A26 Detail Report Document Summary Create UBOS Help

---

**GENERAL INFORMATION**

NEW RECORD WFO\* CAR Document No.\* CAR71210000

1. Open Date 12/10/2007 Open Time 09:00 2. Op Initials WSH 3. Response Priority  
 Immediate  Low  
 Routine  Not Applicable 4. Close Date 12/10/2007 Close Time 13:00

5. Maintenance Description 481 characters left AWIPS  
 AWIPS Release OB8.2

---

**EQUIPMENT INFORMATION**

6. Station ID\* CAR 7. Equipment Code\* AWIPS 8. Serial Number 001 9. TM M 10. AT M 11. How Mal 999

Alert: Time Remaining: (For Block 12 use only)

---

**13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING**

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
				New Row
				Delete Row

---

**14. WORKLOAD INFORMATION**

a. Routine	b. Non-Routine	c. Travel	d. Misc	e. Overtime
Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes
			4 0	

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**MISCELLANEOUS INFORMATION**

15. Maintenance Comments 673 characters left  
 Installed AWIPS OB8.2, I.A.W. AWIPS Software Installation Instruction Note 72

16. Tech Initials TR

Contract Maintenance Disclaimer

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**17. SPECIAL PURPOSE REPORTING INFORMATION**

a. Mod No. 872 b. Mod Act/Deact Date 12/10/2007 c. Block C d. Trouble Ticket No. e. USOS Outage Doc No. Expand

---

**18. Work Order Information:**

Work Accomplished by  
 Region Headquarters  Electronics  WFO/Office  Facilities  
 Maintenance Contractor

Est. Cost or Bid Req. Completion Date \$

Contractor Maintenance Time  
 Hours Minutes

Commit A26 Schedule on Commit Place on Hold Schedule on Hold Cgpy A26 New A26 Cancel

Done Internet 100%