AWIPS SOFTWARE INSTALLATION NOTE 107
Office of Central Processing
W/CP: RH

SUBJECT:	**AWIPS Release 16.4.1**
PURPOSE:	Provides installation instructions and related information for Advanced Weather Interactive Processing System (AWIPS) Software Release 16.4.1.
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) 15235.
VERIFICATION STATEMENT:	This procedure was tested and verified on test platforms at the National Weather Service (NWS) National Headquarters in Silver Spring, MD (NHDA, NMTR, NHOR), test bed at the NWS Training Center, Kansas City, MO (OPGA) and the following Regional Headquarters and operational platforms: Southern Region Headquarters, Fort Worth, TX (EHU) Eastern Region Headquarters, Bohemia, NY (VUY) Alaska Region Headquarters, Anchorage, AK(VRH) WFO, Des Moines, IA (DMX) WFO, Boulder, CO (BOU) WFO, Charleston, SC (CHS) WFO, Elko, NV (LKN) WFO, Brownsville, TX (BRO) LMRFC, Slidell, LA (ORN) WFO, Reno, NV (REV) WFO, Burlington, VT (BTV) WFO, Wilmington, NC (ILM) WFO, Shreveport, LA (SHV) WFO, Spokane, WA (OTX) WFO, Missoula, MT (MSO) WFO, Miami, FL (MFL) MBRFC, Pleasant Hill, MO (KRF) WFO, Sacramento, CA (STO)
ESTIMATED COMPLETION DATE:	All sites should complete installation by March 16, 2017. The installation date must be scheduled on the NWS AWIPS Google Calendar.
TIME REQUIRED:	Approximately 2 hours
ACCOMPLISHED BY:	Electronic Systems Analyst (ESA), Information Technology Officer (ITO) or their designee
EQUIPMENT AFFECTED:	AWIPS
SPARES AFFECTED:	None
PARTS/MATERIALS REQUIRED:	None

SOURCE OF PARTS/MATERIALS:	Raytheon
DISPOSITION OF REMOVED PARTS/MATERIALS:	Not applicable (N/A)
TOOLS AND TEST EQUIPMENT REQUIRED:	None
DOCUMENTS AFFECTED:	File this note in EHB-13, Section 3.1.
SUMMARY OF CHANGES:	N/A
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. All steps are required unless otherwise directed in the instructions.
TECHNICAL ASSISTANCE:	For questions or problems pertaining to this note, contact Network Control Facility (NCF) at (301) 713-9344.
REPORTING INSTRUCTIONS:	Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in EHB-4, Maintenance Documentation, Part 4, and Appendix F. Include the following information on the EMRS report: Maintenance Description (block 5): **AWIPS Release 16.4.1** Equipment Code (block 7): **AWIPS** Serial Number (block 8): **001** Maintenance Comments (block 15): **Installed Release OB16.4.1 I.A.W. AWIPS Software Installation Note 107** Mod No. (block 17a): **S107** A sample EMRS report is provided as Attachment **E**.

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Attachment A – AWIPS II Installation Instructions
Attachment B – Rebooting RP Servers
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Acronyms and Abbreviations Used in This Procedure

AI	Admin Interface
AIDE	Advanced Intrusion Detection Environment
ARD	AWIPS Remote Display
ASOS	Automated Surface Observing System
AWIPS	Advanced Weather Interactive Processing System
BMH	Broadcast Message Handler
CAVE	Common AWIPS Visualization Environment
CFR	COTS / FOSS Requests
CHPS	Community Hydrologic Prediction System
COTS	Commercial-Off-The-Shelf
CWSU	Center Weather Service Units
D2D	Display 2-Dimensions
DAS	Direct Attached Storage
DCS	Development Change Specifications
DOH	Development and Operations Hydrologist
DR	Discrepancy Reports
EDEX	Environment Data Exchange
EMRS	Engineering Management Reporting System
ESA	Electronic Systems Analyst
FAA	Federal Aviation Administration
FOSS	Free-Open-Source-Software
FSCK	FileSystem Consistency Check
FSS	Forecast Shell Server
GB	Gigabytes
GFE	Gridded Forecast Editor
GOES-R	the Geostationary Operational Environmental Satellite-R Series
HLS	Hurricane Local Statement
ID (SID)	Identification (Site Identification)
ITO	Information Technology Officer
JMS	Java Messaging System
JVM	Java Virtual Machine
KVM	Keyboard Video Mouse
LAPS	Local Analysis and Prediction System
LDAD	Local Data Acquisition and Dissemination

LDM	Local Data Manager
MAPS	Mesoscale Analysis and Prediction System
MSAS	MAPS Surface Analysis System
NCEP	National Centers for Environmental Prediction
NCF	Network Control Facility
NIC	NwsInits Config
NWPS	Nearshore Wave Prediction System
RC	Request for Change
RFC	River Forecast Centers
RP/REP	River Ensemble Processor
RPM	Red Hat Package Manager
SAIDS	System Atlanta Information Display System
TC	Time Constraint
WAN	Wide Area Network
WCOSS	Weather and Climate Operational Supercomputing System
WFO	Weather Forecast Offices

ATTACHMENT A AWIPS II Installation Instructions

A.1 General Information

The OB16.4.1 installation includes corrections to Development Change Specifications (DCS), Commercial-Off-The-Shelf (COTS)/Free-Open-Source-Software (FOSS) Requests (CFR), and Discrepancy Reports (DR), which are listed in Attachment D. The entire installation will generally take about 2 hours to complete. Users need to log off the systems during the install.

A.1.1 Prerequisites

AWIPS Migration (II) Release OB16.2.2 must be installed.

Sites and their backup sites need to update to the latest version (4.0.2 or later) of NwsInitsConfig (NIC) and upload their configuration to the central server before installing 16.4.1. See the NIC Release Notes (https://collaborate.nws.noaa.gov/trac/nwsscp/export/HEAD/scp/Gfe/Smartinits/NwsInitsConfig/tags/latest_stable/docs/ReleaseNotes.html) for detail.

For the backup sites that have not yet upgraded to OB16.4.1 and use the Nearshore Wave Prediction System (NWPS) model, beta sites need to coordinate with them to perform Section A.2.2 to resolve site override conflict with OB16.4.1.

A.1.2 Pre-Installation Activities

The installation must be scheduled on the NWS AWIPS Google Calendar to ensure installation support availability. The pre-installation procedures listed in Section A.2 should be performed several days prior to the scheduled installation. Sites should review the OB16.4.1 Release Notes (https://www.ops1.nws.noaa.gov/Secure/awips_softwre.htm) and the Living Release Notes (https://docs.google.com/spreadsheets/d/1wv3ygGxfI9g9LTsxyNtwipkGhoCDqxuPor3dwbL-lW8/edit?pli=1#gid=1149690948) to prepare for the install.

A.2 Pre-Installation Procedures

Complete Section A.2.1 through Section A.2.9 before beginning the core installation in Section A.3.

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.

- AWIPS will be unavailable for operational use during the installation. Coordinate with backup sites to arrange for service backup as applicable.
- Schedule installation on the NWS AWIPS Google Calendar.
- 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.
- During the install, System Atlanta Information Display System (SAIDS) will not be available to the Federal Aviation Administration (FAA), and sites must ensure that the Automated Surface Observing Systems (ASOS) dial-in should switch to backup sites.
- Wide area network (WAN) hub sites must ensure that the corresponding hub site pair is not concurrently performing 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.

- Sites with connections to CWSU must coordinate the installation of this release with those sites, since there will be a disconnection during the release installation. Those sites should plan the update for AWIPS Remote Display (ARD) on the same date as 16.4.1 install.

A.2.2 Coordinate Backup Sites to Resolve NWPS Related Site Override Conflict

The following pertains to any backup sites that have not yet upgraded to OB16.4.1 and use the NWPS model:

Due to changes in the NWPS smartinit in OB16.4.1, it is necessary for 16.2.2 and earlier sites to remove site overrides to the file: `/awips2/edex/data/utility/edex_static/site/XXX/smartinit/nwpsCG1.py` if they exist and then resend their configuration to the central server using the Service Backup GUI so that 16.4.1 sites do not encounter problems backing them up.

A.2.3 Check fsck

On the Linux Data Server **DX1** as user `root`, run:

```
tune2fs -l /dev/mapper/vg_aiidb-awipsiidb | grep "Next check"
```
(Execute this command in one line)

If the date returned is in the past or will be in the past by the date of the install, then a package swap will force an **fsck** on the large database volume on the Direct Attached Storage (DAS) before the `a2dx1apps` package will restart. This can take around 20 minutes to perform before the package will swap. While the post-security patch install reboots are performed, `a2dx1apps` will take an additional 20 minutes to start on **DX2**. Rebooting **DX2** while the **fsck** is running is NOT recommended.

NOTE:	If the volume needs, or is close to needing, an **fsck** prior to the install, and if the site prefers no downtime at this time, the site can complete the **fsck** before the main install step in Section A.3.1.

If the volume needs or is close to needing an **fsck** prior to the install, then coordinate downtime with the operations staff for a package halt (**`hb_halt a2dx1apps`**) and restart (**`hb_run a2dx1apps`**) to complete the **fsck**.

A.2.4 Disable Site PX1/PX2 Cron

At least 2 hours before the install, but preferably the night before, disable the `a2SITEpx1cron` and `a2SITEpx2cron` to allow all Common AWIPS Visualization Environment (CAVE) crons time to complete before the install. This will prevent unnecessary killing of lingering cron/CAVE processes during the installation process, which could lead to corrupted data. Run the following commands. Type:

```
ssh px1f "rm -f /etc/cron.d/a2SITEpx1cron; service crond
restart"
```
(Execute this command in one line)

```
ssh px2f "rm -f /etc/cron.d/a2SITEpx2cron; service crond
restart"
```
(Execute this command in one line)

If the site has `gfeClient` cron jobs elsewhere, those cron jobs need to be disabled too.

NOTE:	Renaming the cron WILL NOT WORK.

A.2.5 Verify AWIPS II Packages are Running on the Primary Servers

Log on to **DX1/2**, **CPSBN1/2** and **PX1/2** and run **`hb_stat`** to verify that `a2dx1apps`, `a2dx2apps`, `a2cp1apps`, `a2cp2apps` (applicable only to sites that are running Data Delivery), `a2px1apps` and `a2px2apps` are running on the primary servers. If they are not running on the primary servers, use **`hb_swap`** to move the packages to the primary servers.

A.2.6 (RFC only) Verify RP_SERVERS and CHPS_SERVERS are Set Up Correctly

Check RP_SERVERS and CHPS_SERVERS to make sure they are set up correctly. From **DX1**, type:

`echo $RP_SERVERS`

`echo $CHPS_SERVERS`

Output should be `rp1-lll`, `rp2_lll`, `rp3_lll`, and `chps1-lll`, `chps2-lll`, ..., `chps9-lll`.

(where `LLL` is the localization site identification (ID))

A.2.7 Verify LDM pqact.conf is Up to Date (VRH, GUM and HFO can skip this step)

The `config_awips2.sh` for the local data manager (LDM) is run from **DX1** or **DX2**. The script will configure LDM `pqact.conf` on both **CPSBN1** and **CPSBN2**. Please ensure that `/usr/local/ldm/etc/pqact.conf.lll` is up to date on **DX1** and **DX2** prior to running the script. It is recommended to make a backup copy of `pqact.conf.lll` from **DX1**.

(where `LLL` is the localization site ID)

A.2.8 Verify Disk Space on DX2 /var

Ensure there are at least 2.3 gigabytes (GB) of free disk space on **DX2**; this is required for database and pypies server updates in the future.

If **`df`** command shows that `/var` has less than 2.3 GB free space, then clean disk spaces (recommend looking at root's e-mail first, then log files if needed).

Useful commands:

`df –h /var`	(Finds available space on /var)
`find /var –size +20M`	(Finds files larger than 20 megabytes (MB))

Contact NCF if the site needs support on cleaning disk spaces.

A.2.9 (For Coastal Sites only) Update NWPS

Pre-install for update NWPS at all coastal sites, refer to Attachment C.1 for instructions.

A.3 Installation Procedure for the OB16.4.1 Software Upgrade

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

A.3.1 Launch AIDE Check

As user `root` on **DX1**, launch the Advanced Intrusion Detection Environment (AIDE) check. Type:

```
cd /data/fxa/INSTALL/awips2/scripts
./aideCheck.sh
```

(Takes about 10 minutes)

If the script takes longer than 30 minutes to run, please contact NCF to verify the progress of the AIDE check.

A.3.2 Notify NCF

CAUTION

Before starting the installation script, ask operations staff to terminate all D2D/GFE sessions and log out of the LX and XT workstations.

Open a trouble ticket with NCF by calling (301) 713-9344. If problems are encountered during the install, contact NCF and ask for OB16.4.1 install support.

CAUTION

DO NOT use Ctrl+C for ANY of the steps during the installation.

A.3.3 Launch AWIPS Installs

NOTE: The `master.sh` script will launch all device installs in parallel and will return to prompt once all installs are complete. It will report the status of each installer as it completes. All scripts still automatically log to `/data/fxa/INSTALL/a2logs/16.4.1-#` (where # is the delta number). At the end of each script, the script will grep for common error messages. If it finds one, the message `Installation completed on <hostname>, but with errors. Please contact the NCF.` will display. If this happens, contact NCF before proceeding; otherwise, continue.

As user `root` on **DX1**, launch all device installs. Still in the directory `/data/fxa/INSTALL/awips2/scripts`, type:

```
./master.sh update
```

(Takes about 15 minutes)

(Answer **y** to the question `Do you wish to proceed?`)

NOTE: Do not continue until `Update Finished!` appears, followed by the date, and the command line prompt returns. Do not press Ctrl+C to exit out of the script. If any red error messages appear, contact NCF with the details about which installs failed before proceeding.

(**VRH** only) As user `root` on **DX1**, install LDM updates. Still in the directory `/data/fxa/INSTALL/awips2/scripts`, type:

./ldmInstall.sh update

/data/fxa/sdc/config_awips2.sh ldm LLL (Takes about 2 minutes)

(where LLL is the localization site ID)

(**VRH** only) As user root on **DX2**, install LDM updates. Still in the directory /data/fxa/INSTALL/awips2/scripts, type:

./ldmInstall.sh update

/data/fxa/sdc/config_awips2.sh ldm LLL (Takes about 2 minutes)

(where LLL is the localization site ID)

exit

Configure LDM pqact.conf. (**VRH** can skip this step)

NOTE:	The config_awips2.sh for LDM is running from **DX1** or **DX2**. The script will configure LDM pqact.conf on both **CPSBN1** and **CPSBN2**. Ensure that ~ldm/etc/pqact.conf.lll (where lll is the site ID) is up to date on **DX1** and **DX2** prior to running the script.

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

/data/fxa/sdc/config_awips2.sh ldm LLL (Takes about 2 minutes)

(where LLL is the localization site ID)

(The Hangup (core dumped) message can be ignored.)

A.3.4 Apply Rehost Code Updates

As user root on **DX1**, launch the rehost code update script. Type:

/data/fxa/INSTALL/awips2/REHOST_CODE/rehost_16.4.1.sh

(Takes about 1 minute)

A.3.5 Apply Security Patches

1. As user root on **DX1**, run the security patch install script. Type:

   /data/fxa/INSTALL/rhel6/scripts/kickoff_patch_install.sh

   (Takes about 4 minutes)

2. Wait a few minutes for the patch installs to start on each device. Type:

   /data/fxa/INSTALL/rhel6/scripts/monitor_sec_patches.sh

NOTE:	The scripts output the status of the installs on all machines. The security patch install log files are stored under dx1:/data/fxa/INSTALL/rhel6/logs. If the install has not completed on all devices, wait a few minutes and rerun the scripts to check the status again. If the output indicates failure for any device, contact NCF before proceeding.

A.3.6 Reboot All Devices and Apply New Kernel

CAUTION

DO NOT proceed until all machines have completed installing security patches!

A.3.6.1 (RFC only) Reboot RP Servers

Reboot the River Ensemble Processors (RPs) at all applicable RFC sites. Refer to Attachment B for instructions.

A.3.6.2 Reboot All Devices (DX, PX, LX, XT, CPSBN, LS, and AX) to Apply New Kernel

1. As user `root` on **DX2** from the keyboard video mouse (KVM) monitor (NOT from an **LX** workstation terminal), type:

   `/data/fxa/INSTALL/awips2/scripts/platformReboot.sh --all`

   This will begin reboots on every machine except **DX2** and **PX2**.

2. Wait until **DX1**, **DX3**, **DX4** and **PX1** servers have been rebooted. To check that the servers are rebooted, use the **`ssh`** command to connect to each of the servers.

   As user `root` on **DX2**, type:

   `reboot`

   As user `root` on **PX2**, type:

   `reboot`

   After **DX2** server has been booted up, swap the **DX2** package back.

   As user `root` on **DX2**, type:

   `hb_swap a2dx2apps`

   After **PX2** server has been booted up, swap the **PX2** package back.

   As user `root` on **PX2**, type:

   `hb_swap a2px2apps`

3. (Sites that utilize the asyncScheduler only) Verify asynchronous functionality.

   If a site utilizes the asyncScheduler, check the asyncScheduler log on **PX1** in `/data/logs/fxa/<today's date>` to ensure everything is correct. There may also be other logs in the same directory for `saids` or other async functions.

A.3.6.3 Check All Devices to Make Sure the New Kernel is Running

As user `root` on **DX1**, launch Kernel Check script. Type:

```
/data/fxa/INSTALL/awips2/scripts/checkKernel.sh
```

NOTE:	Output after each host should be highlighted in green, and the new kernel number is `2.6.32-642.3.1`. If any return with a red value, or an error message such as `No route to host` appears, investigate the patch install logs, check the machine to see why it did not reboot properly, or contact NCF for assistance.

A.3.6.4 Contact NCF to Re-initialize the AIDE Database

Contact the NCF install support engineer and request that they re-initialize the AIDE database. The installation can continue while NCF performs this action.

A.3.6.5 Verify the Packages are Running on the Primary Servers

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

```
hb_stat
ssh px1 "hb_stat"
ssh cpsbn1 "hb_stat"
```

If any packages are listed on the failover device, log on to the device where it should be running and run the command:

`hb_swap a2XXXapps` (where XXX is the host package names, e.g., **dx1**, **cp1**)

A.3.6.6 Check Heartbeat and LDAD Servers

1. Log on to the local data acquisition and distribution (LDAD) server **LS2** as `root` to verify packages are running on **LS2**. Type:

   ```
   hb_stat
   ```

2. If LDM does not start automatically on **LS2**, type the following commands to restart LDM.

   From **LS2** as `ldm`, type:

   ```
   ldmadmin stop
   ldmadmin delqueue
   ldmadmin clean
   ldmadmin mkqueue
   ldmadmin start
   ```

A.3.7 Start Environment Data Exchange (EDEX)

1. As user `root` on **DX1**, update configuration files. Type:

ssh dx3

/data/fxa/sdc/config_awips2.sh edex LLL

(where `LLL` is the localization site ID)

(The `FAILED: /awips2/edex/bin: is a directory.` message can be ignored.)

(The `FAILED: copy setup.env to CPSBN1 and CPSBN2.` message can be ignored.)

/data/fxa/sdc/config_awips2.sh cave LLL

(Takes about 3 minutes. NCEP sites should skip this step.)

2. (**ALR** only) Update **SJU** EDEX configuration files. Type:

   ssh px1

   /data/fxa/sdc/config_awips2.sh edex SJU

   (Answer **y** to the question `Would you like to configure setup.env to SJU?`)

   /data/fxa/sdc/config_awips2.sh cave SJU

   (The `FAILED: /awips2/edex/bin: is a directory.` message can be ignored.)

   (The `FAILED: copy setup.env to CPSBN1 and CPSBN2.` message can be ignored.)

   exit (Returns back to **DX3**)

3. Start **DX3** EDEX. Still on **DX3**, type:

   service edex_camel start

   tail -f /awips2/edex/logs/edex-ingest-<yyyymmdd>.log | grep "now operational" (Execute this command in one line)

   Press **Ctrl+C** to quit out of the tail once the service becomes operational.

NOTE:	If no `now operational` prints out from the previous command line after a few minutes, try the following: **grep "now operational" /awips2/edex/logs/edex-ingest-<yyyymmdd>.log** (Execute this command in one line) Contact NCF if key words `now operational` could not be found in the log file.

4. Start EDEX on the remaining servers. While still on **DX3**, type:

```
for host in dx4 {host5} {host6}
do
ssh -q $host service edex_camel start
done
```

(where {**host5**} and {**host6**} will be **dx5** and **dx6** for NCEP sites and **px3** and **px4** for **AFC** and **VRH**)

NOTE: For sites without **host5** and **host6**, the following command can be used to start EDEX server on **DX4**:

```
ssh -q dx4 service edex_camel start
```

Tail edex-ingest log for key words `now operational` on each server (**dx4**, **host5** and **host6**) to confirm EDEX server is up and running.

5. (BMH sites and **ALR** only) Start Broadcast Message Handler (BMH) EDEX on **PX1** and **PX2**.

   While still on **DX3**, type:

```
for host in px1 px2
do
ssh -q $host service edex_camel start bmh
done
```

A.3.8 (WFOs and RFCs only) Launch LAPS/MSAS Installs

As user `root` on **DX1**, launch the Local Analysis and Prediction System (LAPS)/Mesoscale Analysis and Prediction System (MAPS) Surface Analysis System (MSAS) install scripts. Type:

```
/data/fxa/INSTALL/awips2/scripts/gsdInstall.sh
```

(No user input required for this step.)

Once the script has finished running on **PX1**, **PX2**, and **DX3**, the installation is completed.

A.3.9 Notify NCF

Call NCF at (301) 713-9344 to confirm the AIDE database re-initialization has finished and notify that OB16.4.1 installation is complete.

Users can log back on the system and launch CAVE.

A.4 Post Install

A.4.1 Re-enable Site PX1/PX2 Cron

Re-enable the site **PX1/PX2** cron after the install by running the following commands. Type:

```
ssh px1 "scp /etc/ha.d/cron.d/a2SITEpx1cron /etc/cron.d;
service crond restart"
```
(Execute this command in one line)

```
ssh px2 "scp /etc/ha.d/cron.d/a2SITEpx2cron /etc/cron.d;
service crond restart"
```
(Execute this command in one line)

If the site has `gfeClient` cron jobs elsewhere, those cron jobs need to be re-enabled.

A.4.2 (For Sites with CWSU only) Update CWSU ARD

After installing OB16.4.1, sites with connections to CWSU must update for ARD on the same date. Please use the following build upgrade procedures:
(https://docs.google.com/document/d/1Ue0sXpyen6nLYZNDekzauFYqWC53Mti6Gr2fwbsleyU/edit)

A.4.3 Update for GOES-R and Polar Products

A.4.3.1 Preparation Guide for GOES-R and Polar Products Ingest

The link below shows the directions of preparing a site's AWIPS system to receive the Geostationary Operational Environmental Satellite-R Series (GOES-R) and Polar Products:

https://vlab.ncep.noaa.gov/group/goes-r-end-user-mission-readiness-project/site-prep-guide

A.4.3.2 Install the GOES-R/Polar Products RPM

The link to the AWIPS Satellite Red Hat Package Manager (RPM) installation instruction page follows. This provides the directions to download and install the latest and greatest Satellite RPMs to the site's machine. These RPMs contain the most up-to-date configuration files for 16.4.1, including new color tables, AWIPS menu structure and satellite data formatting fixes.

https://vlab.ncep.noaa.gov/group/goes-r-end-user-mission-readiness-project/rpm-installation-guide

A.4.4 (For Coastal Sites only) Update NWPS

Post-install for update NWPS at all coastal sites refer to Attachment C.2 for instructions.

A.4.5 Changes for WarnGen Mixed Case Products

Release OB16.4.1 contains minor changes related to WarnGen mixed case products. Some mixed-case typographic errors in site level WarnGen templates need to be corrected. The template files can be accessed using the CAVE localization perspective in the File Browser under D2D and Warngen.

1. The following mixed-case typographical errors need to be fixed in site-level WarnGen templates:

- File `impactSevereWeatherStatement.vm` in the `"wind still a threat"` section (near line 275), the text `"evere"` needs to be changed to `"severe"`. In the `"historyWindCTA"` section (near line 1115), the phrase `"Seek shelter now"` needs to be changed to upper case `"SEEK SHELTER NOW"`.
- If WIND HAIL tags are used in the traditional (non-impact) marine products, the following two changes are needed. File `specialMarineWarning.vm` in the `"WIND HAIL tag"` section (near line 210), the text `"kts"` and `"in"` need to be changed to `"KTS"` and `"IN"`. File `specialMarineWarningFollowup.vm` in the `"WIND HAIL tag"` section (near line 433), the text `"kts"` and `"in"` need to be changed to `"KTS"` and `"IN"`. The impact marine templates have the correct upper case `"KTS"` and `"IN"` text.
- (Alaska Region only) File `nonConvectiveFlashFloodWarning.vm`: in the `"hycType first bullet"` section (near line 173), the text `"ON THE"` needs to be changed to `"on the"`.

2. Workstation **PRACTICE MODE** should be used to test each WarnGen product. Verify that the correct mixed case text is provided for the full life cycle (NEW, CON, CAN and EXP) for every WarnGen product issued by the office.

After the OB16.4.1 WarnGen post install is completed, the following page should be consulted for full WarnGen mixed case migration instructions:
https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/MixedCaseMigration.

ATTACHMENT B Rebooting RP Servers

Table B - 1: Server and Process Dependencies

	CHPS VMs	Process Dependencies
RP1	CHPS1	Forecast Shell Servers (user fews on CHPS3) Master Controller (user fews on CHPS1) ActiveMQ (user fews on CHPS1) Tomcat (user root on CHPS1)
	CHPS2	Forecast Shell Servers (user fews on CHPS3) Master Controller (user fews on CHPS1) ActiveMQ (user fews on CHPS1) Tomcat (user root on CHPS1) PostgreSQL Service (user root on CHPS2)
	CHPS3	Forecast Shell Servers (user fews on CHPS3) FewsPiService (user fews on CHPS3)
RP2	CHPS4 CHPS5 CHPS6	Similar to CHPS1/2/3
RP3	CHPS7 CHPS8 CHPS9	Similar to CHPS1/2/3

NOTE: Depending on what server is shutting down, ensure that all process dependencies on the server are first stopped in order. Otherwise, restarting the servers and software may cause problems.

B.1 Shutting Down Community Hydrologic Prediction System (CHPS) Processes

B.1.1 Shut Down the FewsPiService

1. Log on to **chps3** (or **chps6** or **chps9**) as user `fews`.
2. Shut down the FewsPiService backend process by typing the following commands:

   `cd /awips/chps_local/fewspiservices`

   `ls ??rfc_pi/*.pid`

   (where `??rfc` is the five-letter ID of the **RFC**, for example `wgrfc`)

   There is a file named `[pid number].pid`. Take note of the `pid` number. If no `pid` number is available, the `FewsPiService` is not running on that system.

   `./fews_piservice.sh ??rfc_pi stop`

3. Check that all the `FewsPiService` process has shut down by typing the following command:

   `ps -eaf|grep <insert pid number here>`

   If the `FewsPiService` continues to run, kill the orphan process by typing the following command:

   `kill -9 <insert pid number here>`

B.1.2 Shut Down FSS

1. Remain on **chps3** (or **chps6** or **chps9**) as user `fews`.
2. Shut down all the Forecast Shell Server (FSS) processes by typing the following command:

   `find /awips/chps_local/fss/ -name "mcproxy.sh" -exec {} stop \;` (Execute this command in one line)

3. Check that all the FSS processes have shut down by typing the following command:

   `pgrep –f mclistener`

   If that command returns empty, the FSS processes were properly stopped. If an FSS is currently running, the process will continue to execute until it completes and should not be killed.

B.1.3 Shut Down MC

1. Log on to **chps1** (or **chps4** or **chps7**) as user `fews`.
2. Stop the Master Controller (MC) by typing the following command:

   `mcstop`

3. Check that all the MC processes have shut down by typing the following command:

   `ps -eaf|grep fews.master.mc.conf`

B.1.4 Shut Down ActiveMQ, Tomcat and PostgreSQL Database

1. On the **chps1** (or **chps4** or **chps7**) change to user `root`.
2. Shut down the ActiveMQ process by running the following command:

   `service activemq stop`

3. Remain on the **chps1** (or **chps4** or **chps7**), as user `root`.
4. Shut down the Tomcat process by typing the following command:

   `service tomcat stop`

5. Log on to **chps2** (or **chps5** or **chps8**) as user `root`.
6. Shut down the PostgreSQL Database using the following command:

   `cd /etc/init.d`

   `service edex_postgres stop`

B.1.5 Shut Down Virtual Machines

1. Log on to **RP1** (or **RP2** or **RP3**) as user `root`.
2. Shut down the virtual machines by typing the following commands:

   `virsh shutdown chps3 (or chps6 or chps9)`

   `virsh shutdown chps2 (or chps5 or chps8)`

   `virsh shutdown chps1 (or chps4 or chps7)`

B.1.6 Reboot RPs

Reboot **RP1** (or **RP2** or **RP3**) by typing the following command as user `root`:

```
reboot
```

B.2 Starting Up CHPS Processes

B.2.1 Start Up Virtual Machines

1. After **RP1** (or **RP2** or **RP3**) has rebooted, log on to **RP1** (or **RP2** or **RP3**) as user `root`.
2. Restart the virtual machines by typing the following commands:

```
virsh start chps3 && sleep 15 (or chps6 or chps9)
virsh start chps2 (or chps5 or chps8)
virsh start chps1 (or chps4 or chps7)
```

B.2.2 Start Up PostgreSQL Database, Tomcat and ActiveMQ

1. Log on to **chps2** (or **chps5** or **chps8**) as user `root`.
2. Restart the PostgreSQL Database using the following command:

```
cd /etc/init.d
service edex_postgres start
```

3. Log on to **chps1** (or **chps4** or **chps7**) as user `root`.
4. Start the Tomcat process by typing the following command:

```
service tomcat start
```

5. Remain on **chps1** (or **chps4** or **chps7**), as user `root`.
6. Start the ActiveMQ process by running the following command:

```
service activemq start
```

B.2.3 Start Up CHPS AI

On an LX workstation, bring up the appropriate CHPS Admin Interface (AI) in a Firefox log on (if an error message appears on the first attempt to log on, exit out of Firefox and bring up the CHPS AI again in Firefox). Click on **System Status** and ensure the database and Java Messaging System (JMS) are up. Leave the AI up.

B.2.4 Start Up MC

On **chps1** (or **chps4** or **chps7**), as user `fews`, start the MC by typing the following command:

```
mcstart
```

B.2.5 Start Up FSS

1. Log on to **chps3** (or **chps6** or **chps9**) as user `fews`.
2. Start up all the FSS processes by typing the following command string:

```
find /awips/chps_local/fss/ -name "mcproxy.sh" -exec {}
start \;
```
(Execute this command in one line)

3. Check that all the FSS processes have been started by typing the following command:

```
ps -eaf|grep FSS
```

B.2.6 Start Up FewsPiService

1. Remain on **chps3** (or **chps6** or **chps9**) as user `fews`.
2. Go to the FewsPiService directory by typing the following command:

```
cd /awips/chps_local/fewspiservices
```

3. Start up the FewsPiService process using one of the following methods, found at the following link, after checking with the Development and Operations Hydrologist (DOH) at the site for the preferred method: https://vlab.ncep.noaa.gov/group/chps/wiki/-/wiki/How-Tos/Starting+and+Stopping+the+FEWS+PI+Service+and+Verifying+its+Status

B.3 Final System Check

Go to the AI and hit **Refresh** every 30 seconds until all the FSS shells have started and the MC status is OK.

ATTACHMENT C Updating NWPS

C.1 Pre-installation for Update NWPS

CAUTION

READ THESE INSTRUCTIONS ENTIRELY WHILE TRANSITIONING TO AWIPS 16.4.1.

CAUTION

FOR BASELINE CHANGES INTRODUCED WITH AWIPS 16.4.1, THE SITE MUST BE ON NIC VERSION 4.0.2 OR LATER. OTHERWISE, BASELINING OF THE COASTAL DOMAINS AND BACK-UP CAPABILITIES ENABLED WITH THAT WILL NOT FULLY WORK, PARTICULARLY ON THE GFE SIDE. THIS IS BECAUSE ON EARLIER VERSIONS OF NIC THE BASELINE SERVERCONFIG IS COMPLETELY OVERRIDDEN.

NOTE: These instructions assume the model is running on a local workstation. It is only for the site's own domain primarily because the site is contributing to NWPS development efforts or has a particular local need not met by WCOSS (Weather and Climate Operational Supercomputing System) runs. Runs for back-up offices should only be executed on WCOSS because the local workstation will not have access to hotstart files, boundary conditions, etc., for those offices.

To simplify these instructions, most references here do not pertain to the local workstation. To ingest the local workstation output files, mimic the baseline configuration for `nwpsCG1NNN` and `nwpsTrkngCG0NNN`, but use local site version of all files referenced in this document. Whereas baseline nwps WCOSS model sources are referenced as `nwpsCG1NNN` and `nwpsTrkngCG0NNN` in AWIPS, the local workstation equivalent files would be `nwpsCG1NNNlocal` and `nwpsTrkngCG0NNNlocal`. For more info, see README documentation with workstation version 3.5 version 16 or higher, the one recommended if running locally.

For more information, visit the NWPS page: https://sites.google.com/a/noaa.gov/nws-sr-srh/nwps.

Or contact the NWPS email list: ncep.list.emc.nwps@lstsrv.ncep.noaa.gov.

C.1.1 Changes in AWIPS, Build 16.4.1, NWPS Scripts, Templates, and Configuration Files

- A fundamental change with 16.4.1 is the NWPS model coming from WCOSS is now being ingested in AWIPS as `nwpsCG1NNN` and `nwpsTrkngCG0NNN`, where `NNN` stands for office ID. These got changed, as documented throughout this software note, to enable the ability for offices to run NWPS for a backup office and ingest it back into the system. It also enables sites with multiple domains, such as national centers, to be able to distinguish model output accordingly.

- Another fundamental change with 16.4.1 is that the following files were baselined (NNN is each coastal office SID):

  /awips2/edex/data/utility/common_static/base/grib/grids/nwpsCG1NNN.xml and nwpsTrkngCG0NNN.xml (**important, until 16.4.1 this directory used to be** edex_static/base/grib/grids **but it got moved to** common_static **with 16.4.1**)

  Previously, only a template was baselined; that template had to be copied as a site-level override and each domain configured. This is no longer the case. All previously configured nwpsCG1 and nwpsTrkngCG0 site-level files (keep in mind directory change above with 16.4.1) should be available to clean. Unless the domain changes at WCOSS, do not configure this anymore; it is baselined now. If in the future the local domain changes at WCOSS, then site-level overrides to configure the system for the new domain would be needed until it is baselined again.

- With 16.2.1, the NWPS baseline cron is removed. runManualNWPS_OutsideAWIPS.sh is no longer executed from the cron. Instead, it is run directly from the Run_NWPS procedure executed on demand by the forecaster.

- With 16.2.1, the the Run_NWPS procedure was modified to enable NWPS to be run from a scheduled cron job. To use this option, follow instructions in Attachment C.4. If using this option, do not allow forecasters to run the interactive Run_NWPS gui at the same time the cron is set to run. Corrupt wind files being sent to WCOSS could result.

- With 16.4.1, the new Run_NWPS procedure has also been modified to support multi-site capability. This enables users to run the model for a backup office when running GFE in backup mode for back offices, and ingest it back into the system or for more than one GFE domain. This is a critical functionality in national centers also. **Additionally, the new** Run_NWPS **procedure now includes the code to ensure there are enough wind grids in the local database before sending the request to WCOSS. If there are not, the procedure will stop the request and notify the user. The ability to have a run from a backup site available in GFE in service backup mode requires both the local and sister office to be on MIC version 4.0.2 or later.**

- With 14.4.1, the Wave parameters time constraint (TC) in the GFE serverConfig were set to TC3NG for all coastal sites. This was a recommendation made by the NWPS team to the program office, as that is the temporal resolution of the NWPS output. If an office overrides this TC with hourly wave grids, interpolation between these hourly grids for the official forecast should not be practiced. While NOAA WAVEWATCH III provides hourly output in some instances, it does not contain the spatial resolution to resolve nearshore wave processes close to the surf zone that the NWPS does. Given the recent feedback received and the desire to provide hourly wave grids, the NWPS developers at NCEP will be implementing hourly NWPS output in a future upgrade of the NCEP/WCOSS NWPS. In preparation for that, and in coordination with the NIC Team, the default marine grids TC were changed back to TC1, but the nwpsCG1_MODEL and nwpsTrkngCG0_MODEL models were kept in server config configured to use TC3NG. If an office populates with the model, it will still create their Marine grids with TC3NG time constraints. When NCEP implements the hourly NWPS output, this parameter will also be changed to TC1 in serverConfig. Additionally, the system /awips2/edex/data/utility/common_static/base/grid/parameterInfo/nwpsCG1.xml and nwpdTrkngCG0.xml files will need to be modified to accommodate hourly output.

C.1.2 Pre-Install Steps for NWPS and OB16.4.1

CAUTION

Make sure the office has upgraded to NIC version 4.0.2 or later.

The following checks/steps are required prior to the install. As CG1 and CG0 grids are being baselined on AWIPS based on those running at WCOSS, sites need to clean the following files from EDEX prior to the upgrade:

- In `/awips2/edex/data/utility/common_static/site/NNN/grid/dataset/alias/gfeParamInfo.xml` - remove entries related to nwps of any kind. (Remerge this file with the new baseline file after the install.)
- Remove `/awips2/edex/data/utility/edex_static/site/NNN/grib/grids/nwpsCG1.xml`. This should also now be removed from baseline. This is now replaced by the baseline `nwpsCG1NNN.xml` file. **With 16.4.1, these** `grib/grids` **definition files have been moved from** `edex_static` **to** `common_static`.
- Remove `/awips2/edex/data/utility/edex_static/site/NNN/grib/grids/nwpsTrkngCG0.xml`. This should also now be removed from baseline. This is now replaced by the baseline `nwpsTrkngCG0NNN.xml` file. **With 16.4.1, these** `grib/grids` **definition files have been moved from** `edex_static` **to** `common_static`.
- Remove nwps-related entries inside of `/awips2/edex/data/utility/edex_static/site/NNN/grib/models/LDAD.xml`. Sites will also have to remerge this new baseline file with their local site version. The new baseline contains the NWPS entries. **With 16.4.1,** `LDAD.xml` **was moved from** `edex_static/base/grib/ models` **to** `common_static/base/grib/models`**. The site-level override must be under** `common_static` **also**.
- Remove `/awips2/edex/data/utility/edex_static/site/NNN/grid/parameterInfo/nwpsCG1.xml`. It is in baseline. If it was modified for any reason, remerge it with the new baseline. **With 16.4.1,** `edex_static/base/grid/parameterInfo` **was moved to** `common_static/base/grid/parameterInfo`**. Site-level override also needs to reside under** `common_static`.
- Remove `/awips2/edex/data/utility/edex_static/site/NNN/grid/parameterInfo/nwpsTrkngCG0.xml`. It is in baseline. If it was modified for any reason, remerge it with the new baseline. **With 16.4.1,** `edex_static/base/grid/parameterInfo` **was moved to** `common_static/base/grid/parameterInfo`**. Site-level override also needs to reside under** `common_static`.

- If the site has a local smartinit for nwps in `/awips2/edex/data/utility/edex_static/site/NNN/smartinit`, it will need to be moved aside. Smartinits for every site are being baselined in 16.4.1. The previously baselined `base/smartinit/nwpsCG1.py` and `base/smartinit/nwpsTrkngCG0.py` files are being replaced with common libraries of nwps-related init functions. These smart inits are imported by new baseline smart inits named `nwpsCG1NNN.py` and `nwpsTrkngCG0NNN.py` to smart init the nwps parameters. In baseline, the basic output fields from nwpsCG1 for all coastal domains that will be smart init will include: **WaveHeight** (significant WaveHeight); **SwanSwell** (a scalar representing significant wave heights of wave groups with a period > 10 s); **Period** (peak period); **and** PeakWaveDir (a vector with a set magnitude showing the direction of the peak wave). **The baseline Weather Element Group nwpsCG1 was updated with these 4 parameters. To calculate a new smart init parameter off NWPS output, set up a site-level override of the** `nwpsCG1NNN.xml` **or** `nwpsTrkngCG0NNN.py` **file, and make additions. Changes will take effect with the next run processed or running ifpInit from command line. The baseline functions in the baseline** `nwpsCG1` **and** `nwpsTrkngCG0.py` **init files should not be changed.**
- If the domain file for the local office in `/awips2/GFESuite/nwps/ domains` on **px2** has been changed, back it up. It will be updated. Remember that those baselined are the ones being baselined at NCEP/WCOSS. If this is changed, coordinate with andre.vanderwesthuysen@noaa.gov and roberto.padilla@noaa.gov at NCEP/MMAB as those files cannot be updated at WCOSS outside specific time periods.
- Remove all NWPS-related entries from postgres and the HDF5 storage. See Attachment C.5 for instructions.

C.2 Post-Installation for Update NWPS

C.2.1 Post-Install Steps for NWPS and OB16.4.1

With OB16.4.1, the NWPS AWIPS scripts remain under `/awips2/GFESuite/nwps` on the servers. The weather element (NWPSwind) remains, as this allows offices to split their official wind grids in time any way they see fit, and still fragment them before sending the grids to NWPS.

NOTE: With this version of the AWIPS scripts, the model on WCOSS can be run for the local site(s), National Centers, Hawaii, or a backup site. With 16.4.1, when the site runs the model in WCOSS for a backup site, templates have been modified in the system to ingest sister office runs from WCOSS back into the local system. **The runs coming back from WCOSS will ingest into D2D quickly. However, if GFE has not been running in backup mode for a significant time, meaning all dbs in server Config have been smart initted**, there may be a delay before it is available in GFE. Both the local and the sister office will need to be in NIC version 4.0.2 or later for this backup capability to fully work.

C.2.2 Post-16.4.1 Install

If the site domain was previously changed locally, consider merging those changes with the new baseline in `/awps2/GFESuite/nwps/domains` if applicable. But doing so should be done in close coordination with NCEP as mentioned in the pre-install section. Changing the file in the system may not create the change immediately at WCOSS; it might take months. Additionally, if it is changed on WCOSS, the baseline `nwpsCG1NNN` and `nwpsTrkngCG0NNN.py` `grib/grids` xml definition files must be overridden following the steps in Attachment C.3.

To ingest the NWPS runs from WCOSS, a pattern needs to be added to the `pqact.conf` used by LDM to ingest files from the SBN. If not already done, add the following entry to the local office's `~ldm/etc/pqact.conf.NNN` file on both **dx1** and **dx2**, and run **`"config_awips2.sh ldm NNN"`** as `root@dx1` to put it in place.

Replace `NNN` with the site and replace <tab> with an actual tab in this entry below:

```
ANY<tab>^(E...88) (KNNN) (..)(..)(..)<tab>FILE<tab>-overwrite -log
-close -edex<tab>/data_store/grib2/(\3:yyyy)(\3:mm)\3/\4/nwps/\1_
\2_\3\4\5_(seq).grib2.%Y%m%d%H
```

The `pqact.conf.NNN` previous file entry needs to be added for each backup site to be ingested into AWIPS. Replace `NNN` with the site of interest.

Edit/create the following files: To ensure the system is configured to ingest the WCOSS runs coming back via the SBN, check the following baseline files. If there is a site override of the file, ensure the nwps-related entries in the baseline files are in the local site override and make sure site-level files are compatible with the latest baseline:

In `/awips2/edex/data/utility/common_static/base/`

`grid/dataset/alias/gfeParamInfo.xml`

`parameter/definition/parameters.xml`

`grib/models/LDAD.xml` - this one moved from `edex_static` to `common_static` with 16.4.1.

In `/awips2/edex/data/utility/common_static/base/` - Moved from `edex_static` to `common_static` with 16.4.1

`grib/grids/nwpsCG1NNN.xml`

`grib/grids/nwpsTrkngCG0NNN.xml`

`distribution/grib.xml`

Do not change:

`grid/parameterInfo/nwpsCG1NNN.xml`

`grid/parameterInfo/nwpsTrkngCG0NNN.xml`

NOTE: It is assumed that the grib2 files coming back from WCOSS will have the same GRIB center (7), subcenter (0), and processID (15) for both CG1 and CG0. This will cause issues when ingesting the WCOSS output runs. Because the forecast process ID for CG1 and CG0 at WCOSS is currently the same (15), their resolutions MUST be slightly different particularly if their corner points are the same. Otherwise, AWIPS will not be able to ingest `nwpsCG1NNN` and `nwpsTrkngCG0NNN` as distinctive model sources. In a future update of WCOSS, those forecast processes will be changed to be 15 for CG1 and 16 for CG0. At that time, should there be a need or desire for CG1 and CG0 to have the same domain and resolution it can be done.

Two baseline weather element group templates were provided, named `nwpsCG1` and `nwpsTrackingCG0,` to show model output in GFE. By default, they also reference `nwpsCG1` and `nwpsTrkngCG0` model sources. With 16.4.1, this is no longer valid. Create a site-level version of these weather element groups, name them `nwpsCG1NNN` and `nwpsTrkngCG0NNN,` and edit the content to refer to the model sources as `nwpsCG1NNN` and `nwpsTrkngCG0NNN`. **Once this is done, the backup office will also see the element weather group when backing up the local office.**

To display `nwpsCG1NNN` and `nwpsTrkngCG0NNN` in D2D, add these as model sources in the localization perspective in D2D → Volume Browser → VbSources → `local.xml` (or `LMM.xml`) (**make sure it is at the SITE level**):

```
<vbSource category="Local" key="nwpsCG1NNN" />
<vbSource category="Local" key="nwpsTrkngCG0NNN" />
```

Do this for both the local and backup sites.

To display swell and wave height in feet (instead of the default meters), create SITE-level files under CAVE → Style Rules called `local2dArrowStyleRules.xml`, `local2dContourStyleRules.xml`, and `localgridImageryStyleRules.xml` (if they do not already exist). In the baseline version of each file, look for a <styleRule> block referencing either `nwpsCG1` or `nwpsTrkngCG0`. Copy and paste it into the site "local" version, then change the `creatingEntity` in the "**local**" version to `nwpsCG1NNN` or `nwpsTrkngCG0NNN` as appropriate (including the backup site). To newly create the local file, ensure the new styleRule block is surrounded by `<styleRuleSet>` and `</styleRuleSet>`

Example for `locald2dContourStyleRules.xml`:

```
<styleRuleSet>
{other previously existing style rules, if any}
    <styleRule>
         <paramLevelMatches>
              <creatingEntity>nwpsCG1NNN</creatingEntity>
              <parameter>SWELL</parameter>
                   <parameter>HTSGW</parameter>
              </paramLevelMatches>
              <contourStyle>
                   <displayUnits>ft</displayUnits>
              </contourStyle>
         </styleRule>
</styleRuleSet>
```

CAUTION

ONCE FINISHED WITH ALL THE CHANGES AND/OR CHECKS, RESTART THE JVMs ON THE EDEX PROCESSING SERVERS.

C.2.3 Ingesting Nests (optional)

To configure AWIPS to ingest the nests (CG2, CG3, CG4, etc.), create site-level versions of all pertinent files listed previously and configure the system to ingest those in the same way. Add the new `nwpsCG#NNN` (if coming from WCOSS) or `nwpsCG#NNNlocal` (if run locally in workstation) source to the D2D → Volume Browser → VBSources → `local.xml` (or `LMM.xml`) file for access in D2D via the VB, and set style Rules for the nests to properly display output in D2D in feet. If there is a practical reason to ingest the high res nest into the coarser GFE domain grid too, then create smart inits, localConfig entries, and Weather Element groups in GFE also for the new nest based model source(s). Mimic, at the site level, every file or file entry documented previously for the baseline `nwpsCG1NNN` model source for `nwpsCG#NNN` or `nwpsCG#NNNlocal`.

CAUTION

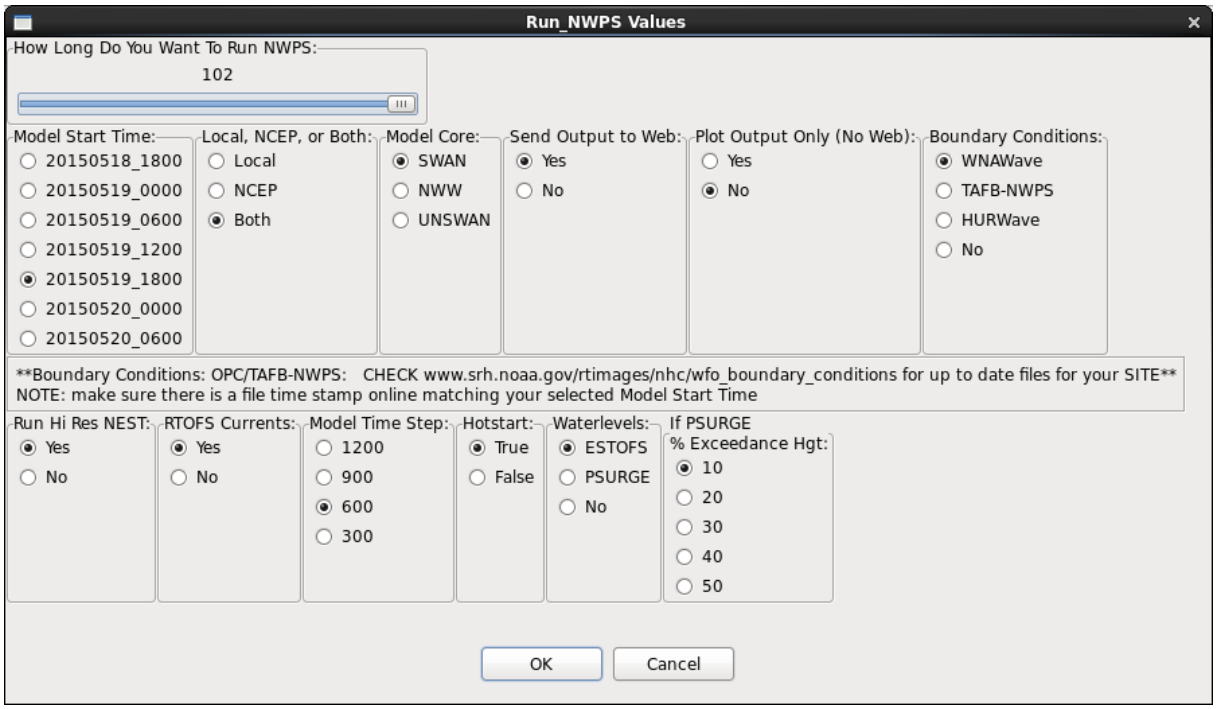
ONCE FINISHED WITH ALL THE CHANGES AND/OR CHECKS, RESTART THE JVMs ON THE EDEX PROCESSING SERVERS.

NOTE: Sites should verify that passwordless ssh works between any of the users and `ldad@ls1` (baseline configuration), and between `ldad@ls1` and the modeling box (if running model locally outside AWIPS; likely ifps@swan, but could vary).

For questions related to NWPS, please post to the NWPS list: ncep.list.emc.nwps@lstsrv.ncep.noaa.gov.

The new 16.4.1 Run_NWPS GUI will continue to look the same as before (as shown in Figure 1). The changes made since 16.2.1 are not visible to users, but support running `/awips2/GFESuite/nwps/bin/runManualNWPS_OutsideAWIPS.sh` on the **px** directly from the GUI. This enables requesting runs from a sister office when running GFE in back up mode for that office, enables running the model from a cron, and allows the GUI to check sites' wind grids Fcst db inventory. If the site does not have at least 120 hours of wind grids, it will stop and alert the user (it will not send the model request to WCOSS in that instance unless that is fixed by the user). **With 16.4.1, the default option is to send model-run request to NCEP only.**

Figure 1: Run_NWS GUI



If the site is still running locally, create a site-level override and change default from NCEP to Both.

The model start time list in the GUI is generated dynamically based on current time. It allows forecasters to pick model init time from the options chosen. If running the model locally outside AWIPS in a local box, then make a site-level override of the GUI and change the default in the Local, NCEP, or Both option to Both. The site's model-run request will be routed to WCOSS and the local workstation also.

After clicking OK in the GUI, a minimized terminal window icon will appear on the workstation's toolbar. Displaying the xterm will present the status of the process by which the input files are being generated and sent out to NCEP, local workstation, or both. When the terminal window closes, it means the run request has been sent. A status message should be stored shortly thereafter in the text database as WRKNWP. This message is updated also when the run completes (after the GFE banners appear) but only if running the model in a local workstation.

To track the status of the model runs at WCOSS, including disposition of the run time parameters requested, check the following NCEP model status page:

http://www.nco.ncep.noaa.gov/pmb/spa/nwps/

NOTE: A model run request for any given model initialization cycle at WCOSS may be sent only once. AWIPS WILL NOT store the model again if it has the same initialization cycle unless the previously ingested model is purged from the AWIPS gridded db as well as the postgres db. NCEP also posts online validation material and web graphics output from each site's model runs, including the nests. They can be accessed here: http://polar.ncep.noaa.gov/nwps/viewer.shtml
For a detailed Forecasters User Guide with essential information, going into greater detail than what can be covered in this document, visit the NWPS Google Site Page: https://sites.google.com/a/noaa.gov/nws-sr-srh/nwps

If system is properly configured to ingest NWPS output, do the following:

In D2D Volume Browser (ASSUMING USE OF THE BAUMGARDT VB MENUS BASELINED IN 15.1.1):

Select **nwpsCG1NNN** from Sources → Local

Select Fields Sig Wave Height, Swell Height, Prim Wave Dir, and Prim Wave Period from Fields → Misc → NWPS → nwpsCG1

Select **Surface** from Planes → Misc

Load and verify.

Select **nwpsTrkngCG0NNN** from Sources → Local.

Verify the following are listed under Fields → Misc → NWPS → nwpsTrkngCG0

Period1 through Period9

Wave1 through Wave9

Swell Height is listed

Select all parameters that have data available.

For Wave# and Period# elements select **Surface** from Planes → Misc

For Swell Height select **Primary**, **Secondary**, **Tertiary**, **OSEQD-4** through **OSEQD-9** from Planes → Misc

For Swell Height select **image loading**.

Click **Load**.

Systems 1 through 9 will not always have data. For each wave system, see the Wave# elements vectors. Sampling the vectors will give height for that wave group.

Swell Height for planes Primary through OSEQD-9 is the scalar wave height corresponding to each of the Wave1 to Wave9 groups. This enables the user to plot Wave1 vectors with Swell height on primary surface as image background.

In GFE, verify nwps output by calling the `nwpsCG1NNN` and `nwpsTrkngCG0NNN` weather element groups, if using WCOSS. The WaveHeight output from `nwpsCG1NNN` can be used to populate the official WaveHeight grids, etc.

In late 2015, FDTB released Part 1 of an NWPS training series in the CLC. Part 2 will be worked during 2016 and FY2017. Part 2 will cover Wave# and Period# output from the NWPS partition and tracking algorithms and strategies on how to use those in ops.

C.3 Determining Grid Coverage for an NWPS Domain for Ingest into AWIPS

With 16.4.1, `nwpsCG1NNN.xml` and `nwpsTrkngCG0NNN.xml` coming from WCOSS will be baselined. However, if the CG1 and CG0 are adjusted at WCOSS before baseline files are updated, the model must be configured at the site level (this should be rare). The configuration should match the baseline one with local site-level files for all affected files, with entries for each of the CGs. By default, the system is not configured to ingest local nests in AWIPS. If those were pushed from WCOSS and the site wanted to ingest them, go through the following steps to gather the information needed to configure some of the site-level files as it pertains to the grid definition. In the future, as NWPS WCOSS is upgraded to use the unstructured grids, the need for this will disappear.

NOTE: Complete at least one full model run and get a sample output grib2 file from WCOSS (send the request through the ncep nwps list) which will provide the grib2 data file to use to complete the following instructions. Query the grib2 file with wgrib2. If running in a local workstation, use the grib2 file from there (see workstation notes and complete the following steps with that file).

Download wgrib2 utility and install it in a Linux workstation or Windows system and complete the following):

```
/path/to/wgrib2 -center -subcenter -processid -nxny -grid
-grid_id -grid_def NNN_nwps_CG1_YYYYMMDD_HHmm.grib2
```

(Execute this command in one line)

This command will give:

1:0:center=US National Weather Service - NCEP (WMC):subcenter=0:background generating process=0 forecast generating process=255:(261 x 201):grid_template=0:winds(N/S):

lat-lon grid:(261 x 201) units 1e-06 input WE:SN output WE:SN res 48

lat 24.100000 to 27.700000 by 0.018000

lon 276.460000 to 281.590000 by 0.019731 #points=52461:grid_id err=0 r_major=6371229.0 m r_minor=6371229.0 m proj_id=1 n=52461 nx=261 ny=201

Using this output, edit (in **px2** as awips):

`/awips2/edex/data/utility/common_static/site/LLL/grib/grids/nwpsCG#NNN.xml` or `nwpsTrnkgCG0NNN.xml, or nwpsCG#NNNlocal.xml or nwpsTrkngCG0NNNlocal.xml`, etc.

file in this directory and change the following to match the local grib2 configuration. # refers to the computational grid in question.

`vi nwpsCG#NNN.xml` (Do the same with any other applicable file and same for the CG0 tracking versions):

```
<?xml version='1.0' encoding='UTF-8'?>
<latLonGridCoverage>
        <name>9112</name>
        <description>nwpsCG#NNN</description>
        <la1>24.1</la1>                         #EDIT:SW LAT
        <lo1>276.46</lo1>                       #EDIT:SW LON
        <firstGridPointCorner>LowerLeft</firstGridPointCorner>
        <nx>261</nx>          #EDIT:grid points in X, which will match the number after
XDEF
        <ny>201</ny>          #EDIT:grid points in Y, which will match the number after
YDEF
        <dx>0.019731</dx>   #EDIT:grid spacing in x, which will match the number
0.019731 above
        <dy>0.018</dy>        #EDIT:grid spacing in y, which will match the number 0.018
above
        <spacingUnit>degree</spacingUnit>
</latLonGridCoverage>
```

For the <name> tag in the previous directions, if overriding a baseline file, keep the **"**name**"** the same. If creating a new grid (e.g., adding a nest), use a value for name that does not already exist in the `gridcoverage` table. Check by typing the command line:

`psql metadata -U awips -c "select * from gridcoverage where name='9112';"` (Execute this command in one line)

If anything is returned, that grid **"**name**"** is in use; choose another.

C.4 How to Run the Model from a Scheduled Cron

It is highly recommended to train forecasters to run the model on demand once wind grids in Fcst db are finalized and ready to be sent to NWPS. Running from a cron presupposes the site's wind grids are always finalized by a preset cron schedule. If they are not (with the new version of Run_NWPS introduced with 16.4.1), the run will not be sent to WCOSS; ensure the forecaster is informed. Before using this option, it is highly recommended forecasters are trained to always have their wind grids ready by a certain time.

To enable the Run_NWPS_cron procedure from a cron:

Add the following entry:

```
02 07,19 * * * gfecron ssh -x px2f "/awips2/GFESuite/bin/runProcedure
-n Run_NWPS -u gfecron -c gfeConfig -V '{"fcstlength":"102","wind"
:"ForecastWindGrids","wheretorun":"NCEP","model":"SWAN","web"
:"Yes","plot":"Yes","wna":"WNAWave","nest":"Yes","gstream"
:"Yes","tstep":"600","hotstart":"True","waterlevels":"ESTOFS","excd"
:"10"}'" > /dev/null 2>&1
```

to the following files on **px2** as user `root`:

- `/etc/ha.d/cron.d/a2SITEpx2cron`
- `/etc/cron.d/a2SITEpx2cron`

This presupposes the wind files will always be ready to execute model run by 0702Z and 1902Z. If necessary, adjust this for times that work best for each site.

Run this command:

`service crond restart`

Then type **`scp /etc/ha.d/cron.d/a2SITEpx2cron`** over to **px1** to the same directory for failover.

C.5 Removing a Model from the System Inside of AWIPS

Users can only run the model for any given model cycle once. At WCOSS, two attempts for a model run request with the same init time will be denied. Ensure forecasters are aware of this. This can happen while testing ingest of nwps in AWIPS when changing configuration. To re-ingest a second model run with the same init time, use the local workstation. To ingest it, clear the previous run from the system first, as follows:

- On **dx1** as user `awips`, **`psql -U awips -d metadata`**
- **`select distinct location_id from grid_info where datasetid like '%nwps%';`** (Execute this command in one line)

  [make note of the value(s) returned]
- For the value(s) returned in the previous select statement:
  - **`select distinct datasetid from grid_info where location_id='####';`** (Execute this command in one line)
  - If **anything** is returned other than an NWPS model, do NOT execute the **`delete from gridcoverage`** statement following for that location_id.
- **`delete from grid where info_id in (SELECT id from grid_info where datasetid like '%nwps%');`**
  (Execute this command in one line)
- **`delete from grid_info where datasetid like '%nwps%';`**
- For the value(s) returned in the previous select statement which only referenced NWPS grids:
  - **`delete from gridcoverage where id='####';`**
- **`\q`** [to exit]
- Also, on **dx2**, **`rm -rf /awips2/edex/data/hdf5/grid/nwps*`**
- Restart edex

To clear out grids from GFE:

- **`/awips2/GFESuite/bin/purgeAllGrids -h ec -d NNN_GRID__nwpsCG1_YYYYMMDD_HH00`**

  (Execute this command in one line)

ATTACHMENT D DCS, CFR and DR Corrected in OB16.4.1 and OB16.3.1

The following list of DCS, CFR and DR is corrected in OB16.4.1 and OB16.3.1. Detailed descriptions of each DR can be found at https://vlab.ncep.noaa.gov/read_only_o_and_m_redmine/.

List of DCSes (total 40)

1. 13499 Missing Precipitable Water % of Normal in VB
2. 16915 Initial Migration from AFOS PILS to AWIPS ID
3. 17825 Ingest and Display NOS data (unstructured)
4. 17826 Jason Altimetry Products
5. 17830 Just in Time Training Plugin
6. 17912 Add capability to import and plot GeoJSON obkect files
7. 18218 Investigate having thin client proxy at regional HQs reject requests to uEngine
8. 18351 Updates for new PQPF data
9. 18590 NWPS: Baseline all coastal domains
10. 18598 Expand availability of Derived Parameters to GFE and DAF
11. 18724 Data Delivery PDA
12. 18778 Performance Improvements for CASA radar
13. 18779 Decommison Uengine by enhancing the DAF
14. 18781 Frame suppression to support GOES-R
15. 18785 Convert LSR Products to Mixed case
16. 18795 Allow Radar VCP selection via AWIPS
17. 18796 Implement new Radar - Shift change checklist product
18. 18816 D2D: HPCQPF Grid Definition in AWIPS
19. 18817 GFE: HPCQPF Grid Definition in AWIPS
20. 18867 BMH: Change coloring for Trigger messages in Broadcast Program dialogs
21. 18974 Improve New Map Projection dialog to support NCP and more use cases
22. 18993 Collaboration needs preference to play a sound when receiving an invite
23. 19032 Remove microEngine dependency from PGEN retrieveActivity utility
24. 19048 Losing connection to collaboration chat server should be handled better
25. 19051 Enhanced DMW Plugin: Further abstraction of the GOES-R Derived Motion Wind (DMW) plugin is needed to take advantage of pressure level information and add flexibility to implement both GOES-R and Himawari AMVs
26. 19054 Improve time entry widget in Calendar dialog
27. 19056 Remove single implementation interfaces from Data Delivery
28. 19064 DBGeo Plugin: Configuration file controlled capability for ingest and display of geometry data

29. 19067 Add missing capabilities/functionality to the DateTimeSpinner
30. 19084 Update BMH to use the new date/time spinner available in the common baseline
31. 19089 NCF - Implement NIC bonding on MHS servers
32. 19099 Remove FLASH Products from MRMS product menus
33. 19105 Remediation of high findings from source code scan - Part 1
34. 19115 Make openfire improvements based on realtime watching of national test
35. 19122 Add Grib Wizard to Localization Perspective
36. 19123 Migrate localization files to common_static (Phase 1)
37. 19124 Port AWIPS I MPE and Hydro code to Java from native wrapped code (Phase 1)
38. 19131 Remediation of high findings from source code scan - Part 2
39. 19202 Add support for configurable cipher block mode to binLightning decoder.
40. 19424 Setup postgres streaming replication for use by DD central registry to support failover

List of CFRs (total 23)

41. 18163 Upgrade Openfire to 3.10.3
42. 18297 Apache Httpclient-3.1 vulnerable and end-of-life -> Replace with Apache HttpComponents
43. 18609 Eclipse 4
44. 18820 Upgrade Jackson json to 2.6.5
45. 18835 Upgrade jetty to 9.2.14
46. 18836 Upgrade Jep to 3.5
47. 18837 Upgrade camel to 2.16.2
48. 18838 Upgrade spring framework to 4.2.4
49. 18839 Upgrade Apache CXF to 3.1.5
50. 18840 Upgrade Apache HttpClient to 4.3.6
51. 18841 Upgrade org.apache.commons.collections to 3.2.2
52. 18842 Update security FOSS to match CXF 3.1.5 - openSAML
53. 18844 Add jasypt 1.9.2 foss
54. 18845 Upgrade ActiveMQ to 5.13.x
55. 18852 Update Java to version 8u77
56. 18904 Address POA&M #69895.
57. 18928 Update security FOSS to match CXF 3.1.5 - org.apache.xml.security (xmlsec)
58. 18929 Update security FOSS to match CXF 3.1.5 - org.apache.ws.security (wss4j)
59. 18930 Update security FOSS to match CXF 3.1.5 - org.bouncycastle (bcprov)

60. 19150 Add python Pandas Data Analysis module to baseline
61. 19151 Add python lxml module to baseline
62. 19152 Add python PyGreSQL module to baseline
63. 19484 Upgrade objectweb ASM from version 1.53 to 2.2

List of DRs (total 226)

64. 272 goes/poesBufferStationInfo.txt file not processed properly by ndm endpoint
65. 7587 The NWRBrowser GUI doesn't open when selecting Edit Climate Product in the Monitoring Controller GUI
66. 9631 MDCRS/ACARS Sounding does not display dewpoint curve
67. 12353 Localization Perspective Allows Multiple Users to Edit Files Simultaneously With
68. 13221 Time Options does not work for NSHARP soundings
69. 13773 Svr Wx Plot poor behavior
70. 13824 TextWS: Non-US METARs do not auto update.
71. 13977 Missing Hydro QPE products in D2D
72. 14184 TextWS: Toggling "Autowrap" ON does not attempt to fix wrapping
73. 14331 GFE: Extrapolate Procedure in GFE moving grids in wrong direction
74. 14493 D-2D: map background blinks or appears and disappears with zooming
75. 14622 LSR: Update script for copying spotters list for 64-bit workstations
76. 14687 Text products with FOUS12 KWNO header not stored with expected AFOS PII
77. 14758 GFE: Spell checker does not replace all the selected words in GFE
78. 14857 CCFP products not displaying when no convection is forecast
79. 14895 Multiple LAPS fields not created properly
80. 15543 RDUWRKLCO is being sent to the shefdeocder but not making to the database
81. 15633 GFE: Weather Element cannot be created with WFO type "NC" in its name
82. 16834 WAN backup products are not ingested
83. 16940 Loss of pan and zoom features in main D2D panel when NWS Collaboration
84. 17213 GFE: Problem with rsyncGridsToCWF_client.sh (rsyncGridsToCWF.sh) script
85. 17295 AvnFPS: "Save As" function not working properly
86. 17411 Local (LDAD) obs are not displaying precip data during rain events
87. 17453 AvnFPS: Problem with syntax checking
88. 17470 chps_backup_weekly failing to run
89. 17507 NAM12 Thunderstorm Probability (Tstorm Prob) displays only 0 HR forecast
90. 17642 Lifted index issue reporting in units of Kelvin but labeled as Celsius

91. 17748 Error in NEXRAD Unit Status with MESO-SAILS
92. 17885 No way to select TDWR elevations below 0.5 in RMR GUI
93. 17947 Tabs in saved perspective displays do not always save in order that they appear on the screen
94. 18114 GFE Text Products showing in GMT rather than MST
95. 18159 Warngen: portion of zone incorrect if zone table has two records for same zone
96. 18169 Bug in BOIVerifyUtility getStatModelCases method
97. 18253 EDEX Fails to Handle End-of-month Metars
98. 18346 BiasCorr_all.sh script error
99. 18352 AvnFPS Text Editor hardcoded background color for discrepancy check
100. 18365 TextWS: Automatic filling out of AWIPS Header Block GUI fields problem.
101. 18376 MPE: Daily QC: error when trying to run from the top menu
102. 18409 ArealQpeGenSrv is not working
103. 18438 TextWS: No space at the end of lines makes wrapping not work in some cases.
104. 18507 Crest History checkboxes get checked when new crests added
105. 18517 EDEX Purger: The selectedRetentionHours tag in the RAW_DATA.xml and PROCESSED_DATA.xml are not being honored
106. 18542 Issue with "Populate_SkyTool" base line smart tool
107. 18547 TextWS: Can not edit WRK products in text window that have a ZCZC header but no empty following line.
108. 18567 Himawari-8 satellite products have shifted to the northeast
109. 18587 CWSU ThinClient: Implement functionality to prevent /home directory filling up over time.
110. 18594 GFE: Error in SAF Formatter Overrides causes incorrect end of line period
111. 18622 Radar: OTR elevation list active radars unsorted and contains duplicates
112. 18653 AvnFPS: AvnFPS program freezing when TAF packages autosaves
113. 18726 Remove patched gov.noaa.nws.ncep.edex.uengine.jar
114. 18728 RadarServer cluster installs do not share configuration data
115. 18735 Unable to delete user-created subset area in data delivery
116. 18736 MPE Gage Table: satellite values are off by 1 hour compared to the display
117. 18743 BOIVerify: Issue with data on which forecaster edited the grids
118. 18755 DD SBN data being sent to ingestGrib
119. 18762 GOES-R - Alaska sector navigation problem
120. 18774 HWR: Buffer limit prevents display of more than approx. 115 stations in RWR product

121. 18797 Radar - remove from AWIPS those products that are obsolete in WSR-88D Build 17

122. 18798 D-2D Radar NEXRAD Unit Status incorrectly reports Backup Comms status as Unknown

123. 18800 Remove WSR-88D Alerting functionality from AWIPS

124. 18871 UELE/paint errors in Hydro perspective point data control

125. 18873 Eclipse4: Fix incompatibilities in order to get D2D procedures and perspective displays to work

126. 18875 Eclipse4: Fix custom Viz tabs and editor right click actions

127. 18876 Eclipse4: Fix switching perspectives

128. 18877 Eclipse4: Fix NPEs on cave startup and extra shell

129. 18878 Eclipse4: Fix pan and clear button toolbar issues

130. 18879 Eclipse4: Fix practice and test mode coloring

131. 18885 Eclipse4: Fix CAVE key bindings and keyboard shortcuts in tooltips

132. 18897 CAVE shutdown closes Views before initiating closing process

133. 18898 Eclipse4: Fix issues with Collaboration views

134. 18899 Eclipse4: Shell style for trim buttons is incorrect

135. 18900 Eclipse4: Localization toolbar buttons occasionally appear to the left of the other toolbar buttons

136. 18901 Eclipse4: Fix removal of Eclipse-contributed perspectives, preferences, and menus

137. 18907 Warngen pathcasts do not work with WES-2 Bridge in simulated time

138. 18908 Warning expiration notice message appears immediately after issuing a warning in simulated time

139. 18939 Generalize WMOHeader class regular expression to eliminate LightningWMOHeader class.

140. 18940 GFE: Product Editor not wrapping first line of text

141. 18943 CAVE Collaboration plugin should have BASE config.xml

142. 18946 D2D display of CIMSS Probability Severe Model sometimes throws Paint error

143. 18953 D2D: NLDN and ENTLN stats plotting incorrectly

144. 18959 Novra S300 DVB Receiver Monitoring and Collection Tool

145. 18970 Fix FOSS manifest version numbers

146. 18972 16.4.1 Build and Merge Support

147. 18975 Eclipse4: Panning is disabled after loading an NSHARP display

148. 18985 VIR switch updates to access new ats1 ssh port

149. 18991 Chat scrollbar can be positioned incorrectly when switching tabs

150. 18992 Add a double click option in the Room Search dialog to join a room

151. 18994 Collaboration Server Login window can be opened multiple times

152. 18996 Complete the migration of proper punctuation as part of the Mixed Case efforts

153. 18998 Collaboration needs more advanced logging to properly diagnose issues

154. 18999 Provide ability to see jids (i.e. usernames) in Collaboration tab

155. 19000 The width of the 'Add Notifier to' dropdown menu is too small; initially loads name with right justified formatting

156. 19001 Shefdecoder fails to automatically create an entry in the IngestFilter database table when token shef_load_ingest is ON

157. 19018 Eclipse 4 NCP: Fix PGEN issues

158. 19019 Eclipse 4 NCP: Fix keybinding issues

159. 19020 Eclipse 4 NCP: Toolbar display issues

160. 19021 Eclipse 4 NCP: Problems with some editor actions

161. 19022 Eclipse 4 NCP: Test shell style trim buttons

162. 19023 Eclipse 4 NCP: Several NCP dialogs remain open after CAVE is closed

163. 19024 Eclipse Java 1.8 compliance settings show developer errors

164. 19031 Registry drops replication event tables when restarted

165. 19040 MPE: PseudoGage displayed different value from what was set in the Gage Table

166. 19041 MPE - Opening multiple/concurrent QC dialogs should not be permitted

167. 19042 MPE - UELE error received when opening Gages->QC Freezing Level

168. 19043 Graceful shutdown stopped an internal route too early

169. 19044 MPE: Unhandled event loop exception when adding a pseudo gage

170. 19045 AWIPS 2 parameter lookups in DD should allow for Wind barb drawing etc.

171. 19046 Prints from Python to stdout no longer appear in the CAVE console log

172. 19047 Confusing chat room behavior when trying to rejoin a room that you left

173. 19050 SAILS : A combination of arrow key strokes returns incorrect frames with tdwr All Tilts data

174. 19053 Indices not set in IDataRecord returned from slab retrieval

175. 19057 GiniSatelliteDecoder incorrectly orients scanMode=3 data

176. 19058 Unable to delete folders in the Localization Perspective containing only USER-level files

177. 19059 Errors decoding profiler data

178. 19060 Colormap names are not restored after reverting a change in the colormap

179. 19061 Orphan purging not working

180. 19062 FSSObs has warnings with some sky covers
181. 19063 True Color capability only works with open GL rendering
182. 19065 pypies is touching all files on repack instead of files that have changed
183. 19068 DD: Pressure Levels in Subset Manager Subscriptions are not sorted correctly
184. 19073 EDEX environment instances not being checked correctly, so only one can be run at a time
185. 19077 GFE: Product Editor word wrapping issue
186. 19079 AvnFPS: problem reporting erroneously high LIFR readings
187. 19081 Station NCKN6 from ALY showing values of 'zero' in site
188. 19083 GOES-R true color is broken
189. 19085 Dac Transmit does not retry audio reads on failure
190. 19098 Eclipse4 NCP: The NCP Welcome tab appears in D2D when NCP is closed
191. 19101 Eclipse 4 Upgrade: Closing perspectives while logged into Collaboration puts Collaboration/CAVE into a bad state
192. 19102 Eclipse 4 Upgrade: Error is returned when double clicking within a view containing directory structures while nothing is selected
193. 19103 Eclipse 4 Upgrade: Error when clicking Matrix Tab in Ensemble Tool
194. 19113 Shared displays are broken due to collab-dataserver errors
195. 19120 Generate single retransmission request for each missing product with LDM
196. 19133 DD: Data Provider Agent does not work after 16.4.1 CXF upgrade
197. 19137 GFE: PlotSPCWatches failed to run - database deadlock
198. 19146 BMH scheduling, issue with changing suite
199. 19154 BMH Broadcast Cycle dialog displays "unknown" message ID for periodic messages
200. 19159 HPE Not Inserting Correct Data Source Value into HpeRadarResult DB Table
201. 19162 Eclipse 4: The scale and frame count values do not update with the selection of other tabs
202. 19163 Eclipse 4: Closing X-Y displays/tabs does not prompt user with a confirmation dialog
203. 19168 Cryptacular java lib missing, 16.4.1 registry won't start
204. 19169 Geometry in ActiveTableRecord causing OutOfMemory errors on ingest JVM
205. 19170 The Version menu becomes dithered/inactive in the Text Display window when the cursor is in the AWIPS ID, or WMO TTAAii CCCC textboxes
206. 19171 NCF Bandwidth Manager persistence issue at start up
207. 19181 NUCAPS: missing IDX field in archive .bin files
208. 19195 Eclipse 4 NCP: Error when switching from NCP to D2D

209. 19197 June 2016 Security Patches

210. 19205 Error is returned when running the AFM formatter in GFE

211. 19207 File missed in upgrade of Openfire in 16.4.1

212. 19238 Upgrade script for DCS 19131 doesn't hit all databases

213. 19245 Eclipse 4: The Popup Skew-T window cannot be closed

214. 19248 GFE - runProcedure.py fails after Jep 3.5 upgrade

215. 19252 Eclipse4: First time loading a new CAVE flashes on monitor before fully opening in selected monitor

216. 19294 GOES-R "Hide incomplete Frames" feature is listed for each GOES-R product loaded

217. 19301 Registry is dropping replication events

218. 19302 PDA: Registry jvm takes over an hour to start with PDA subscriptions active

219. 19303 MPE Daily QC: UELE when loading a date with saved Level 2 data.

220. 19304 EBXML hibernate queries are returning the cartesian product of all slots on queries.

221. 19305 Database permissions cause failures on EDEX/CAVE startup after clean install

222. 19307 Localization files have not been migrated over from edex_static to common_static

223. 19308 Registry internationalstring and localizedstring tables not being purged

224. 19316 Rehosted climate F6: Monthly mean temperature can be rounded incorrectly

225. 19321 MPE Build Hourly: mismatched precip data values between Build Hourly and EDEX ingest.

226. 19327 DD PDA: When zoomed into the mapscale, only the colorbar and the product legend will display when loading of a PDA product

227. 19328 PDA Metadata parser broken

228. 19329 PDA retrieval process incorrectly reports successful retrieval when products are failing

229. 19330 PDA: Cannot create an adhoc query for a specific date

230. 19331 Services on central registry cause server to be constantly in swap

231. 19332 GOES-R - DMW ingest fails

232. 19333 RiverPro adjustment to handle Sacramento tidal stage

233. 19335 Error received closing out CAVE with python file open in Localization perspective

234. 19337 WA 20.58 Move edex_static nwps grid files to common_static

235. 19339 When cipher and legacy decryption fail, encrypted data is misidentified as keep-alive record

236. 19341 Trying to Save a PDA Subset in Data Delivery Throws an Alertviz Error

237. 19346 pguser Name Needs to be Updated in .Apps_Default_site File

238. 19352 Eclipse Upgrade: When map editors are tiled, no indication of tile in focus

239. 19356 GFE NWPS - Correct errors and omissions in serverConfig.py and nwpsCG1 smartInit

240. 19363 GFE: HLS/TCV formatter logs should log for insufficient grid inventory

241. 19364 Archiver case creation GUI not able to save Radar data for the national mosaics

242. 19365 Eclipse4: An extra blank window appears along with the Contact Request dialog in Collaboration

243. 19367 BMH: add 3 bytes of padding to SAME tone

244. 19377 Eclipse 4: Menu items carry over to different perspectives when CAVE is launched with -perspective

245. 19381 GFE: Unable to apply zone combinations for text formatters

246. 19385 Dialogs are not properly centered after Eclipse 4 upgrade

247. 19386 CAVE crashes to desktop when trying to load sounding data from the volume browser in D2D

248. 19389 Database Authentication Prevents Import of GeoJSON Files Into Maps Database

249. 19391 Modifications needed for the backup and deploy scripts for LSR mixed case

250. 19399 The "Assign Transmitter Group(s)..." dialog in BMH is not sized correctly and is missing buttons

251. 19401 LSR - Saving new events fail

252. 19402 Update LAPS-MSAS install scripts to account for move of all base grib model files

253. 19412 16.4.1 - pqact.conf.template – incorrect binlightning entry

254. 19416 DAF hydro and climate requests for getAvailableTimes and getAvailableLocationNames do not use all fields

255. 19419 Jar conflict present with Data Delivery crawler plugin and AWIPS2 FOSS plugin

256. 19444 DAF - limit by envelope broken for grid datatype requests

257. 19446 GFE: Formatter launcher freeze occurs in certain case

258. 19447 D-2D radar storm relative velocity (SRM) display may display incorrectly

259. 19449 16.2.2 - pqact.conf.template – incorrect radar entry

260. 19455 TextWS autostart for new LX workstations being lost

261. 19456 WarnGen: impactSevereWeatherStatement.vm misspelling and grammatical error

262. 19457 Database backup script does not work with new roles and permissions

263. 19465 Grid Netcdf Decoder does not handle data with WMO headers

264. 19467 Get UELE When Logging Back into Collaboration With autoFloat and autoAttach Enabled

265. 19482 Python Data Access Layer returns grid data with an unusable shape

266. 19494 LSR - Event list defaults to mixed case when LSRUseMixedCase is not set

267. 19499 GFE - Grid Manager Display Mode and some Edit Preferences pulldown menus not working

268. 19501 Post 16.4.1 Text Browser Issues

269. 19506 WarnGen: Alaska Region mixed case error in nonConvective FFW template

270. 19507 GFE: Product editor adding spaces at beginning of lines when product is edited

271. 19508 Update cave.sh for handling decommisioned XTs

272. 19515 DAF - GFE wind direction request return wind magnitude

273. 19516 Updating comps.xml for DCS 17826

274. 19518 Cannot print from Text Workstation post-16.4.1

275. 19519 DAF - Constraints are ignored when getting available times for warning / practice warning

276. 19520 Registry index changes cause postgres to crash when large text documents are stored

277. 19523 Alarm Display Window has no minimize button

278. 19524 LSR: Event Log GUI text boxes not hidden

279. 19525 GHG Monitor missing minimize button in 16.4.1

280. 19529 GFE: Derived Parameters in GFE (DCS 18598) changes causing problems with HPCERP/TCFloodingRainThreat

281. 19537 Ported Java Roc Checker does not properly limit data retrieved for data limits and location data limits

282. 19537 Updating compx.xml to baseline FOSS python packages

283. 19545 DAF Grid request with no parameters/times results in NPE

284. 19556 Collaboration automatically docks when switching perspectives

285. 19557 National Blend of Global Models – pqact conf pattern incomplete

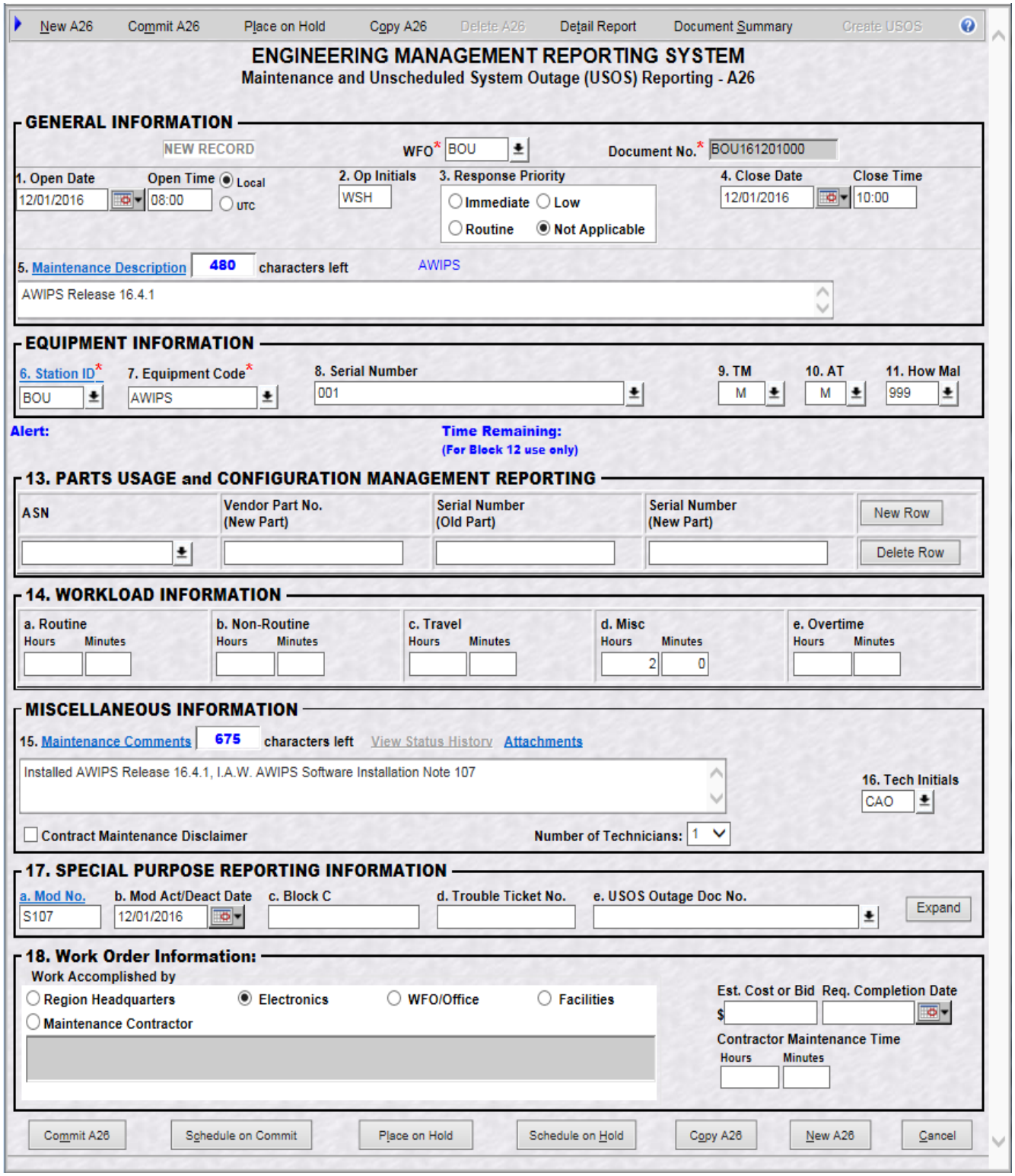
286. 19558 When user attempts to display a map via the Hydro Point Data Control dialog, a classCastException is thrown by GetTotalPrecip.jsAlertStation() method

287. 19559 NWPS: fix grid definitions xml files

288. 19560 FTPS Connections to PDA do not timeout

289. 19561 GFE: Combinations file not synced properly

ATTACHMENT E Sample EMRS Report



New A26 | Commit A26 | Place on Hold | Copy A26 | Delete A26 | Detail Report | Document Summary | Create USOS

ENGINEERING MANAGEMENT REPORTING SYSTEM
Maintenance and Unscheduled System Outage (USOS) Reporting - A26

GENERAL INFORMATION

NEW RECORD | WFO* BOU | Document No.* BOU161201000

1. Open Date: 12/01/2016 | Open Time: 08:00 (Local / UTC) | 2. Op Initials: WSH | 3. Response Priority: Immediate / Low / Routine / Not Applicable | 4. Close Date: 12/01/2016 | Close Time: 10:00

5. Maintenance Description | 480 characters left | AWIPS

AWIPS Release 16.4.1

EQUIPMENT INFORMATION

6. Station ID* BOU | 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 Hours	a. Routine Minutes	b. Non-Routine Hours	b. Non-Routine Minutes	c. Travel Hours	c. Travel Minutes	d. Misc Hours	d. Misc Minutes	e. Overtime Hours	e. Overtime Minutes
						2	0		

MISCELLANEOUS INFORMATION

15. Maintenance Comments | 675 characters left | View Status History | Attachments

Installed AWIPS Release 16.4.1, I.A.W. AWIPS Software Installation Note 107

16. Tech Initials: CAO

☐ Contract Maintenance Disclaimer | Number of Technicians: 1

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.	b. Mod Act/Deact Date	c. Block C	d. Trouble Ticket No.	e. USOS Outage Doc No.
S107	12/01/2016			

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 | Copy A26 | New A26 | Cancel