

# **Test Case Text Products 2.0**

**for**

**Contract DG133W-05-CQ-1067**

**Advanced Weather Interactive Processing System (AWIPS)  
Operations & Maintenance**

**AWP.TE.SWCTR/TO10-0003**

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## Change History

Revision	Date	Affected Pages	Explanation of Change
Draft	21 Nov. 2008	ALL	Initial Draft
1	5 Jan. 2009	ALL	Modifications to the Initial Draft
2	16 Jan. 2009	ALL	Result of NWS comments and PDT
3	6 Feb. 2009	3	Result of DT

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## **1.0 SCOPE**

See TO10 Software Test Plan.

## **2.0 APPLICABLE DOCUMENTS**

### **2.1 Source Documents**

- Text Products 1.0

### **2.2 Reference Documents**

- Legacy NWS GFE Test Cases: Acceptance Test Case ID Number: ac010; tp001-tp031; ui029-ue031; and ui45.
- Legacy NWS GFE Test Cases for Test Areas AC – VP.
- Section 3.1.3 of the AWIPS D-2D User's Manual Build 8.1.
- Software Test Plan for the Advanced Weather Interactive Processing System Project, Contract #DG133W-05-CQ-1067, January 2009.
- The Silver Spring NWS AWIPS I test bed application.
- Release OB8.2 of the Weather Event Simulator (WES).
- Rational RequisitePro.

### 3.0 TEST CASE DESCRIPTION

This test case demonstrates the capability of the Text Products functionality contained in GFE. Products include the Area Forecast Discussion (AFD); Area Forecast Matrices (AFM); Coded Cities Forecast (CCF); Hydrologic Outlook (ESF), Fire Weather Forecast (FWF); Fire Weather Forecast Tabular (FWFTabular); Fire Weather Matrices (FWM); NowCast (NOW); Point Forecast Matrices (PFM); Public Information Statement (PNS); Fire Danger Statement (RFD); Tabular State Forecast (SFT\_OAX and SFT\_NE); Special Weather Statement (SPS); Zone Forecast Product (ZFP); Flood Watch (Hazard\_FFA); Hazardous Weather Outlook (Hazard\_HWO); Non-Precipitation (Hazard\_NPW); FireWx Watch/Warning (Hazard\_RFW); Winter Wx Product (Hazard\_WSW); and Convective Watch (Hazard\_WCN) as issued from the Storm Prediction Center (SPC).

#### 3.1 Assumptions, Constraints, and Preconditions

- TO10 software has been installed successfully.
- CAVE, EDEX and pgAdmin III are running.
- The GFE Perspective is displayed.
- Data has been ingested.
- Several weather elements are loaded.
- There are multiple grids available for the weather elements (at minimum T, Td, Wind, and Wx weather elements).
- Grids are populated with model data and all interpolation processes have been done. In addition, the forecast has been saved.
- A Convective Watch (e.g., Severe Thunderstorm or Tornado Watch) is readily available to be ingested.
- Actions, Results, and Requirements highlighted in gray indicate requirements and/or capabilities to be included in the scope of future task orders. They are included here for purposes of continuity and traceability with the original AWIPS I test case documents.

#### 3.2 Recommended Hardware

See TO10 Software Test Plan, Section 2.2.

#### 3.3 Test Inputs

Section 4.0 contains the test procedures for this test case. Sections 2.2 – 2.9 of the TO10 Software Test Plan contain general test inputs applicable to all TO10 test cases. Grayed out test step(s) indicate functionality not yet delivered.

#### 3.4 Test Outputs

The Text Products will be returned and the results outlined in section 4.0 are met.

### 3.4.1 GFE GUIs Tested

- Publish To Official
- Process Monitor
- Formatter Launcher
- Local Formatter
- Define Text Products

### 4.0 TEST SCENARIO

Step #	Action	Result	Pass/Fail
Edit Areas Setup			
1.	Mouse Button (MB) 1 click 'GFE' -> 'Define Text Products...'	A Define Text Products dialog opens.	
2.	MB3 click on 'CCF_OAX_Definition' and select 'Modify...'	The Python Perspective opens with a tab labeled 'CCF_OAX_Definition.py'.	
3.	Under the section labeled 'defaultEditAreas', replace "area1" with "NEZ033" and comment out the line for area2.	The modifications are made.	
4.	MB1 click 'File' -> 'Save'.	The modifications are saved.	
5.	Repeat steps 2-4 for 'PFM_OAX_Definition' in the Define Text Products dialog.	A 'PFM_OAX_Definition.py' tab opens. Modifications are made and saved.	
6.	Repeat steps 2-4 for 'FWM_OAX_Definition' in the Define Text Products dialog. Comment out the lines for area2 and area3.	An 'FWM_OAX_Definition.py' tab opens. Modifications are made and saved.	
7.	Repeat steps 2-4 for 'SFT_OAX_NE_Definition' in the Define Text Products dialog. Comment out the lines for area2 and area3.	A 'SFT_OAX_NE_Definition.py' tab opens. Modifications are made and saved.	
8.	Repeat steps 2-4 for 'SFT_OAX_OAX_Definition' in the Define Text Products dialog. Comment out the lines for area2 and area3.	A 'SFT_OAX_OAX_Definition.py' tab opens. Modifications are made and saved.	
9.	MB3 click on 'AFD' and select 'Modify'. Change "state_IDs" to ["NE"]. Then MB1 click 'File' -> 'Save'.	An 'AFD.py' tab opens. Modifications are made and saved.	
10.	Close all Python tabs, the Outline window, the Python Perspective, and the Define Text Products window.	The Python tabs, Outline window, Python Perspective, and Define Text Products window close.	
Product Generation			
11.	Bring up the Process Monitor dialog by selecting 'Products' -> 'Process Monitor'.	The Process Monitor dialog opens.	
12.	Bring up the Formatter Launcher dialog by selecting 'Products' -> 'Formatter Launcher'.	The Formatter Launcher window opens.	
13.	Select the Area Forecast Discussion (AFD) from the Products list.  MB1 click the 'Run Formatter'  icon, and select default entries.	A new tab appears in the Formatter Launcher dialog.  The product is run through the Formatter Launcher, and the output text displays in the text window.	
14.	Note in the Process Monitor Dialog that all of the items are queued to run, and one is running.		

Step #	Action	Result	Pass/Fail
15.	Look at each product and verify that it seems reasonable. Look at the log using the  icon. Scan the log for any errors. If a product fails, the output text will not be displayed; rather the log window will be displayed with the error. After each product has been verified, click the red 'X' to dismiss that tab.	Verified. The tab closes.	
16.	Repeat steps 13-15 for the following products, creating zones when required: - Coded Cities Forecast (CCF) - Hydrologic Outlook (ESF) - Fire Weather Forecast (FWF) - Fire Weather Forecast Tabular (FWFTabular) - Fire Weather Matrices (FWM) - Spot Forecast (FWS) - NowCast (NOW) - Point Forecast Matrices (PFM) - Public Information Statement (PNS) - Fire Danger Statement (RFD) - Tabular State Forecast (SFT) - Special Weather Statement (SPS) - Zone Forecast Product (ZFP)	Each product is run through the Formatter Launcher. After each formatter has finished, the output text displays in the text window.	
Make Hazards and Product Generation			
17.	In GFE, MB1 click 'Hazards' -> 'MakeHazard'.	The MakeHazard dialog appears.	
18.	Using the MakeHazard dialog, create a Winter Weather: Blizzard Watch (BZ.A) (Set the hazard type, select several counties and MB1 click 'Run and Dismiss')	The Blizzard Watch (BZ.A) hazard is created. The MakeHazard dialog closes.	
19.	MB1 click 'Hazards' -> 'MergeHazards'.	The hazard is merged onto the main Hazards parm.	
20.	Save the modified grids.	The modified grids are saved.	
21.	From the Formatter Launcher GUI, select Winter Wx Product (Hazard_WSW) from the Products list.  MB1 click the 'Run Formatter'  icon, and select default entries.	A new tab appears in the Formatter Launcher dialog. The product is run through the Formatter Launcher, and the output text displays in the text window.	
22.	Note in the Process Monitor Dialog that all of the items are queued to run, and one is running.		

Step #	Action	Result	Pass/Fail
23.	Look at each product and verify that it seems reasonable. Look at the log using the  icon. Scan the log for any errors. If a product fails, the output text will not be displayed; rather the log window will be displayed with the error. After each product has been verified, click the red 'X' to dismiss that tab.	Verified. The tab closes.	
24.	In the Grid Manager, delete all hazards in the hazards parm.	All hazards are deleted in the hazards parm.	DR #1890
25.	Save the modified grids.	The modified grids are saved.	
26.	Repeat steps 17-25 for a Flood Watch (Hazard_FFA). -Hydrology: Flood Watch (FA.A)	The product is run through the Formatter Launcher, and the output text displays in the text window.	
27.	Repeat steps 17-25 for a Non-Precipitation (Hazard_NPW). -Non_Precipitation: Dense Smoke Advisory (SM.Y)	The product is run through the Formatter Launcher, and the output text displays in the text window.	
28.	Repeat steps 17-25 for a FireWx Watch/Warning (Hazard_RFW). -Fire Weather: Red Flag Warning (FW.W)	The product is run through the Formatter Launcher, and the output text displays in the text window.	
29.	Repeat steps 17-25 creating a Red Flag Warning (FW.W), but on the Formatter Launcher GUI, select Hazardous Weather Outlook (Hazard_HWO) from the Products list.	A new tab appears in the Formatter Launcher dialog. The product is run through the Formatter Launcher, and the output text displays in the text window.	
<b>SPC Watch and Product Generation</b>			
30.	Take the Severe Thunderstorm Watch from the SPC, modify the Text (.txt) document to reflect the current date and time, and ingest it into the sbn/warning endpoint. (Refer to the Warning Ingest Instructions document, steps 19-22, for instructions how to ingest the Watch product.)	The Severe Thunderstorm Watch is ingested.	
31.	Verify Alert Visualization picked up the ingested warning and alerts the user to run the PlotSPCWatches procedure.	Verified.	
32.	MB1 click 'Hazards' -> 'PlotSPCWatches'.	The Severe Thunderstorm Watch is inserted into GFE as all hazards are separated in the Grid Manager.	
33.	MB1 click 'Hazards' -> 'MergeHazards'.	All separated hazards are merged onto one parm.	
34.	Save the modified grids.	The modified grids are saved.	

Step #	Action	Result	Pass/Fail
35.	From the Formatter Launcher GUI, select Convective Watch (Hazard_WCN) from the Products list.  MB1 click the 'Run Formatter'  icon, and select default entries.	A new tab appears in the Formatter Launcher dialog. The product is run through the Formatter Launcher, and the output text displays in the text window.	
36.	Note in the Process Monitor Dialog that all of the items are queued to run, and one is running.		
37.	Look at each product and verify that it seems reasonable. Look at the log using the  icon. Scan the log for any errors. If a product fails, the output text will not be displayed; rather the log window will be displayed with the error. After each product has been verified, click the red 'X' to dismiss that tab.	Verified. The tab closes.	
38.	In the Grid Manager, delete all hazards in the hazards parm.	All hazards are deleted in the hazards parm.	DR #1890
39.	Save the modified grids.	The modified grids are saved.	
Additional Text Products			
40.	Repeat steps 21 – 23 for the Site Specific Forecasts (SPOT), FWS product.	The product is run through the Formatter Launcher. After each formatter has finished, the output text displays in the text window.	
41.	Repeat steps 21 – 23 for the Area Forecast Matrices, AFM product.	The product is run through the Formatter Launcher. After each formatter has finished, the output text displays in the text window.	DR #1890
42.	After all of the products have been run without errors, complete steps 43– 44. Then repeat steps 21 – 23, except change the issuance time and other options on each product generation Values dialog that is presented.	As expected.	
43.	Publish all data to the Official database selecting 'Products' -> 'Publish To Official'. From the Publish To Official dialog, select 'Set Selected' and then select 'Publish'.	The 'Publish To Official' dialog appears.  The selected grids are published. The 'Publish To Official' dialog closes.	DR #1456 DR #1876 DR #1877
44.	Initialize the required edit areas for this test by opening up a terminal window, changing your directory to the GFESuite "bin" directory, and running this command: run/setupTextEA		

Step #	Action	Result	Pass/Fail
45.	Test the Baseline and Region versions of the formatters: From the Local Formatter dialog, MB1 click on 'Products' -> 'Baseline'. Run each Baseline product to completion and verify that it produces reasonable output. From the Local Formatter dialog, MB1 click on 'Products' -> 'Region'. Run each Region product to completion and verify that it produces reasonable output.	As expected.	
46.	Delete all Hazards grids in the Grid Manager and save the modifications (if necessary). Create a new table product by selecting 'GFE' -> 'Define Text Products'. This brings up the Define Text Products dialog. Over the left column (Text Products), MB3 popup and select 'New...'. Enter ac010 as the name of the product, and ensure that the type is 'table'. MB1 click 'OK'.	The Hazards grids are deleted and modifications are saved. A table template is displayed in the python window.	DR #1890
47.	Modify the edit areas. From the Python editor window, MB1 click on 'File' -> 'Save', then close the 'ac010.py' tab, the Outline window and the Python Perspective. Close the Define Text Products dialog after verifying that 'ac010' appears in the dialog window.	Verified.	
48.	From the Formatter Launcher dialog's Product menu, select only the 'ac010' entry. Then run the product. In the ac010 Values window that appears, select all check boxes and click 'OK'.	The product is generated and the output appears in a new Python window.	
49.	Delete the 'ac010' table product by selecting 'GFE' -> 'Define Text Products'. This brings up the Define Text Products dialog. Over the left column 'ac010' entry, MB3 popup and select 'Delete...'. A confirmation dialog is displayed. Press 'OK'.	The entry is deleted after the confirmation message is answered.	
50.	Close the External Programs (e.g., Process Monitor) dialog. Close the Formatter Launcher dialog.	The External Programs/Process Monitor and Formatter Launcher dialogs close.	
End of Test			

**5.0 REQUIREMENTS VERIFICATION TRACEABILITY MATRIX (RVTM)**

Number	Description	Test Step(s)
SYSR2069	The AWIPS system shall implement the GFE Formatter Launcher.	12-50
SYSR2070	The AWIPS system shall implement the GFE Formatter Data Interface.	12-50
SYSR2997	The AWIPS System shall create the FWS - Site Specific Forecasts (SPOT) product as produced by the Public and Fire Weather Services GFE Application.	40
SYSR2998	The AWIPS System shall create the NOW - Short Term Forecast product as produced by the Public and Fire Weather Services GFE Application.	16
SYSR3004	The AWIPS System shall create the AFM - Area Forecast Matrices product as produced by the Public and Fire Weather Services GFE Application.	41
SYSR3049	The AWIPS System shall create the RFD – Rangeland Fire Danger product as produced by the Public and Fire Weather Services Text Workstation Editor Application.	16
SYSR3122	The AWIPS system shall implement WarnGen, GHG (Gridded Hazard Generator), and product life cycle (assumes workstation test mode is adequate for testing).	ALL
SYSR3123	The AWIPS system shall implement Text formatter and hazards products.	1-50