

# **Test Case GHG Monitor**

**for the**

**AWIPS**

**Contract**

**DG133W-05-CQ-1067**

Prepared for:

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## Revision History

Revision	Date	Affected Pages	Explanation of Change
1.0	27 June 2008	ALL	Initial Draft
2.0	8 August 2008	8-10, 12-14	Redlines per PDT
3.0	4 September 2008	ALL	Redlines per DT

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*Contract DG133W-05-CQ-1067; Test Case GHG Monitor*

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## Table of Contents

1.0	SCOPE .....	4
2.0	APPLICABLE DOCUMENTS .....	5
2.1	Source Documents .....	5
2.2	Reference Documents .....	5
3.0	TEST CASE DESCRIPTION .....	6
3.1	Assumptions, Constraints and Preconditions .....	7
3.2	Recommended Hardware .....	7
3.3	Test Inputs .....	7
3.4	Test Outputs .....	7
4.0	TEST SCENARIO .....	8
5.0	REQUIREMENTS VERIFICATION TRACEABILITY MATRIX (RVTM).....	15

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*Contract DG133W-05-CQ-1067; Test Case GHG Monitor*

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## **1.0 SCOPE**

See Software Test Plan.

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## **2.0 APPLICABLE DOCUMENTS**

### **2.1 Source Documents**

- None

### **2.2 Reference Documents**

- Legacy NWS GFE Test Case ID Numbers: gh001-gh009
- 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 Information Processing System Project, Contract #DG133W-05-CQ-1067, August 2008
- The Silver Spring NWS AWIPS 1 test bed application
- Release OB8.1 and OB8.2 of the Weather Event Simulator (WES)
- Rational RequisitePro

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### 3.0 TEST CASE DESCRIPTION

This test case exercises and demonstrates the capabilities of the GHG Monitor and Make Hazard GUI. This includes the following tests:

- Prepare the Hazards Data for the GHG Monitor Tests (gh001)
  - Test Objective: This test case demonstrates preparing the hazards data for the GHG monitor test.
- Saving and Loading Configurations of the GHG Monitor (gh002)
  - Test objective: This test case demonstrates saving and loading configurations of the GHG monitor.
- Using the Display Sector to view both the Map and Text Display Areas (gh003)
  - Test objective: This test case demonstrates using the display sector to view both the map and test display areas.
- Using the Pane Resizer and Scroll Bars to adjust and resize the Map/Text Display and the Spreadsheet Display Areas (gh004)
  - Test Objective: This test case demonstrates using the pane resizer and scroll bars to adjust and resize the map/text display and the Spreadsheet Display areas.
- Using the Zoom Features from the Map Pull-Down Menu on the Map and Text Display Area (gh005)
  - Test Objective: This test case demonstrates using the zoom features from the map pull-down menu on the Map and Text Display Area.
- To Display the Different Types of Maps from the Map Pull-Down Menu and Using the Show Label Feature on the Map and Text Display Area (gh006)
  - Test Objective: This test case demonstrates the display of different types of maps from the Map Pull-Down Menu and using the Show Label Feature on the Map and Text Display Area.
- Using the Map Display Area of the GHG Monitor to Query Hazards based on a Zone (gh007)
  - Test Objective: This test case demonstrates using the Map Display Area of the GHG monitor to query hazards based on a zone.
- Using the Text Display Area of the GHG Monitor (gh008)
  - Test Objective: This test case demonstrates using the Text Display Area of the GHG monitor.
- Using the Spreadsheet Display Area of the GHG Monitor (gh009)

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- Test Objective: This test case demonstrates using the Spreadsheet Display Area of the GHG monitor.

### **3.1 Assumptions, Constraints and Preconditions**

- TO9 software has been installed successfully
- CAVE, EDEX and pgAdmin III are running
- Data has been ingested
- Actions, Results, and Requirements highlighted in yellow 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. Items highlighted in blue are capabilities added and/or Deficiency Reports (DRs) corrected since the Delivery Test.

### **3.2 Recommended Hardware**

See Software Test Plan.

### **3.3 Test Inputs**

Section 4.0 below contains the test procedures for this test case. Sections 2.2 – 2.9 of the Software Test Plan contain general test inputs applicable to all TO9 test cases.

### **3.4 Test Outputs**

The basic GFE menus will be displayed and the results outlined in section 4.0 are met. The GFE GUIs to be tested include:

- MakeHazard
- Save Weather Element(s)
- Formatter Launcher
- GHG Hazards Monitor
- GHG Monitor Font Choice Dialog
- GHG Monitor Color Choice Dialog
- GHG Monitor Alert Dialog
- GHG Monitor Filter Dialog
- Save GHG Display Filter
- Save Configuration
- Load Configuration

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*Contract DG133W-05-CQ-1067; Test Case GHG Monitor*

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#### 4.0 TEST SCENARIO

Step	Action	Result	Pass/Fail
Prepare the Hazards Data for the GHG Monitor Tests (gh001)			
1.	In CAVE, MB1 click on the Perspectives icon  and select 'Other'.	The Open Perspective dialog appears.	
2.	MB1 click 'GFE'. Then MB1 click 'OK'.	The Open Perspective dialog closes. The GFE Perspective loads in CAVE.	
3.	From the Main Menu, select 'Hazards' -> 'MakeHazard'.	The MakeHazard dialog box appears.	
4.	From the MakeHazard dialog box, select an available hazard from the hazard list. Then drag or click MB1 over the adjacent forecast zone map to select a forecast zone(s) for the hazard. Adjust the forecast start and end times (automatically set an hour apart) for the hazard at the column to the right. MB1 click 'Run' to save the selections.	The selections are made and saved. The MakeHazard dialog remains open.	
5.	Repeat step 4 to create a second hazard. MB1 click 'Run/Dismiss' to save the selections.	The selections are made and saved. The MakeHazard dialog closes.	
6.	From the Main Menu, MB1 click 'Hazards' -> 'MergeHazards' to merge the Hazards on the main display.	The Hazards merge.	
7.	Close the MakeHazard dialog. From the Main Menu, MB1 click the 'Save Forecast' icon  . The Save Forecast dialog box appears. MB1 click 'Save Forecast' to save changes made to the main display.	The MakeHazard dialog closes. The changes are saved.	
8.	From the Main Menu, select 'Products' -> 'Formatter Launcher'.	The Formatter Launcher dialog box appears.	
9.	From the Formatter Launcher dialog box, select 'Products' -> 'Hazard' -> <the Hazard created above>. Then MB1 click the 'Run Formatter' icon  to run the Formatter Launcher. Verify that there is a message and that the VTEC code displays.	A message displays in the text area. The VTEC code is present.	
10.	MB1 click the 'Transmit...' button.	The Transmit to AWIPS *WAN* dialog box appears.	
11.	MB1 click the 'Simulated Transmit' button. This process takes approximately 5 seconds.	The Transmit to AWIPS *WAN* dialog box closes.	

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Step	Action	Result	Pass/Fail
12.	Select the red X at the upper right corner of the dialog box. Then MB1 click the 'Hide' button at the bottom of the dialog box. Note: The Hazards data is now ready to be displayed on the GHG Monitor.	The Formatter Launcher dialog closes.	
Saving and Loading Configurations of the GHG Monitor (gh002)			
13.	From the GFE menu bar, MB1 click 'Products' -> 'GHG Monitor...'	The GHG Hazards Monitor dialog appears.	
14.	From the GHG Hazards Monitor menu bar, MB1 click 'Columns'. Then select the data fields to be displayed in the columns of the Spreadsheet Display Area.	The Spreadsheet Display Area expands or contracts as the items are selected or deselected.	
15.	From the Main Menu Bar, MB1 click 'Filter' -> 'Define Filter...'	The GHG Monitor Filter Dialog box appears.	
16.	Select the desired filtering method and then select Dismiss.	The Spreadsheet Display Area removes lines based on the filter settings. The GHG Monitor Filter Dialog box closes.	
17.	To save the current Filter from the Filter pull-down menu, select 'Save Current Filter...'	The Save GHG Display Filter dialog box appears.	
18.	To finish saving the Filter, type a name in the space provided at the bottom of the Save GHG Display Filter dialog box. Then MB1 click the 'Save' button. Note: You can now easily access the saved Filter by clicking on the Filter pull-down menu and selecting the saved Filter. You can also delete a named Filter from the pull-down menu by selecting Delete Named Filter.	The Filter is saved. The Save GHG Display Filter dialog box closes.	DR #1378
19.	Verify the filter was saved by selecting 'Filter' -> 'Default Filter'. Then select 'Filter' -> 'Define Filter...' to verify the Default Filter. Select the filter from the Filter menu and again select 'Filter' -> 'Define Filter...'	Verifies the Filter is saved.	
20.	From the GHG Hazards Monitor menu bar, MB1 click 'Alerts' -> 'Define Alerts'.	The GHG Monitor Alert Dialog box appears.	
21.	Select the desired alert times and alert filters. Then MB1 click 'Apply Filter'.	The Filters are applied. The GHG Monitor Alert Dialog box closes.	
22.	From the GHG Hazards Monitor menu bar, MB1 click 'Appearance' -> 'Font...'	The GHG Monitor Font Dialog box appears.	
23.	Select the desired font size and then MB1 click 'Apply Font'.	The Spreadsheet Display Area text resizes to the font selected. The GHG Monitor Font Dialog box closes.	

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Step	Action	Result	Pass/Fail
24.	From the GHG Hazards Monitor menu bar, MB1 click 'Appearance' -> 'Colors...'	The GHG Monitor Color Dialog box appears.	
25.	Select the desired Text Color/Background Color for all Color Scheme items in the Color Scheme column. Then MB1 click 'Apply Colors'. MB1 click on the map within the GHG Hazards Monitor to view the changes. Note: if no warnings are expiring, reset the regular entries color scheme in the GHG Color dialog. Note: The Appearance pull-down menu gives the option to enable the 'Identify TEST Events' product.	The GHG Monitor Color Dialog box closes. The Text and Background colors modify as selected.	
26.	From the GHG Hazards Monitor menu bar, select 'File' -> 'Save Configuration' to save the current configuration.	The current configuration is saved.	
27.	To verify the saved configuration actually worked, MB1 click 'File' -> 'Default Configuration'. Then MB1 click 'File' -> 'Load Configuration' to re-load the saved configuration. MB1 click on the map within the GHG Hazards Monitor to view the changes. Note: The saved configuration will only work for your user name.	The default configuration displays. The saved configuration displays.	
Using the Display Selector to view both the Map and Text Display Areas (gh003)			
28.	To view the Text Display Area, select the Text button in the Display Selector of the GHG Monitor.	The Text Display Area displays.	
29.	To view the Map Display Area, select the Map button in the Display Selector of the GHG Monitor.	The Map Display Area displays.	
Using the Pane Resizer and Scroll Bars to adjust and resize the Map/Text Display and the Spreadsheet Display Areas (gh004)			
30.	To adjust the Map and Text Display using the scroll bars, MB1 click and drag over the scroll bars located between the Map/Text Display and the Spreadsheet Display. MB1 click and drag over the scroll bars to the right of the Map and Text Display.	The Map and Text displays adjust accordingly.	
31.	To resize the Map/Text and Spreadsheet Displays vertically, hold the mouse over the space above the Spreadsheet Display until an up/down arrow appears. Then MB1 click and drag the cursor up or down to resize the displays.	The Map, Text, and Spreadsheet displays adjust accordingly.	

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Contract DG133W-05-CQ-1067; Test Case GHG Monitor

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Step	Action	Result	Pass/Fail
32.	To resize the Map/Text and Spreadsheet Displays horizontally, hold the mouse over the left and right borders of the GHG Monitor until a left/right arrow appears. Then MB1 click and drag the cursor left or right to resize the displays.	The Map, Text, and Spreadsheet displays adjust accordingly.	
33.	To adjust the Spreadsheet Display using the scroll bars, MB1 click and drag over the scroll bars located below and to the right of the Spreadsheet Display. Note: When increasing/decreasing the GHG Monitor Display size horizontally, the Map forecast zones appear smaller/larger and more/less of the Spreadsheet Display is visible. When increasing/decreasing the Map and Text Display size vertically, the Map forecast zones appear larger/smaller and the Spreadsheet Display is smaller/larger.	The Spreadsheet display adjusts accordingly.	
<b>Using the Zoom Features from the Map Pull-Down Menu on the Map and Text Display Area (gh005)</b>			
34.	From the GHG Hazards Monitor menu bar, MB1 click the 'Map' pull-down menu. MB1 click on the dotted line at the top of the Map pull-down menu. The Map Menu is now easily accessible.	The Map menu displays. The Map cut-off menu displays as its own window.	
35.	From the Map menu, select zoom x2. Zoom x2, which zooms into the map by a factor of 2, is the first level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	
36.	From the Map menu, select zoom x4. Zoom x4, which zooms into the map by a factor of 4, is the second level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	
37.	From the Map menu, select zoom x6. Zoom x6, which zooms into the map by a factor of 6, is the third level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	
38.	From the Map menu, select zoom x8. Zoom x8, which zooms into the map by a factor of 8, is the fourth level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	
39.	From the Map menu, select zoom x12. Zoom x12, which zooms into the map by a factor of 12, is the fifth level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	

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Step	Action	Result	Pass/Fail
40.	From the Map menu, select zoom x16. Zoom x16, which zooms into the map by a factor of 16, is the highest level of zoom. Verify the change in size of the Forecast Zone Map.	The Forecast Zone Map changes in size accordingly.	
41.	From the Map menu, select No Zoom to resume the original state of the Forecast Zone Map. The user may unzoom out of the Forecast Zone Map by selecting a smaller the zoom factor. Note: When increasing/decreasing the zoom, the user may want to use the Pane Resizer to adjust the Map and Text Display for enhanced viewing capacity.	The Forecast Zone Map reverts to its original size.	
To Display the Different Types of Maps from the Map Pull-Down Menu and Using the Show Label Feature on the Map and Text Display Area (gh006)			
42.	From the GHG Hazards Monitor menu bar, select the Map pull-down menu. MB1 click on the dotted line at the top of the Map pull-down menu. The Map Menu is now easily accessible.	The Map menu displays. The Map cut-off menu displays as its own window.	
43.	From the Map menu, select 'Show FIPS'. Verify the Forecast Zone Map changes in the Map and Text Display of the GHG Monitor.	The FIPS Map displays counties over land and marine zones over water.	
44.	From the Map menu, select 'Show Public'. Verify the Forecast Zone Map changes in the Map and Text Display of the GHG Monitor. Note: For TO9, Public is already displayed. No other map has been implemented.	The Public Map displays the public forecast zones.	
45.	From the Map menu, select 'Show FireWx'. Verify the Forecast Zone Map changes in the Map and Text Display of the GHG Monitor.	The FireWx Map displays the fire weather zones.	
46.	From the Map menu, select 'Show Marine'. Verify that the Forecast Zone Map changes in the Map and Text Display of the GHG Monitor.	The Marine Map displays the coastal marine zones and offshore marine zones.	
47.	To toggle on/off the Forecast Map Zone Codes, MB1 click on the 'Show Labels' radio at the bottom of the Map menu. When the zone labels are turned on, verify that each Forecast Map Zone is labeled with a code.	The labels appear on the map. Each Forecast Map Zone is labeled.	

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Step	Action	Result	Pass/Fail
Using the Map Display Area of the GHG Monitor to Query Hazards based on a Zone (gh007)			
48.	With the 'Show Labels' feature toggled on, MB1 click in a zone on the Forecast Zone Map. Note: If there is not a hazard in the Spreadsheet Display Area associated with the selected zone on the Forecast Zone Map, then the zone will not be highlighted and queried.	The selected zone is automatically highlighted in the "Map Selections" color from the Appearance menu on the GHG Hazards Monitor menu bar. The Hazard(s) relating to the selected zone(s) are highlighted in the Spreadsheet Display Area. The query highlights all zones that are related to the highlighted hazard(s) in the Spreadsheet Display Area.	
Using the Text Display Area of the GHG Monitor (gh008)			
49.	MB1 click on a cell in a row of the Spreadsheet Display Area of the GHG Monitor.	Observe that the clicked-upon row is now highlighted.	
50.	Select 'Text' in the Display Selector of the GHG Hazards Monitor. Verify that the hazard(s) in the highlighted row(s) of the Spreadsheet Display Area are highlighted in the Text Display Area. Verify that the overview text and segment text relating to the hazard(s) is highlighted.	The Text Display Area appears.	DR #1377
51.	Select Map in the Display Selector of the GHG Hazards Monitor. MB1 click on a forecast zone(s) of the Forecast Zone Map.	The Map Display Area appears. The clicked-upon zone(s) are highlighted along with the associated hazard(s) in the row(s) of the Spreadsheet Display Area of the GHG Hazards Monitor.	
52.	Repeat Step 50. Note: Only segmented products have overview text. Overview text is defined as the text between the MND header and the first UGC line. Segment text is defined as the text within each segment between the end of the UGC/Date block and the \$\$ segment ending characters.	The Text Display Area appears.	
Using the Spreadsheet Display Area of the GHG Monitor (gh009)			
53.	From the GHG Hazards Monitor menu bar, Save and Load a Configuration. You can now refer to the next step.		

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Step	Action	Result	Pass/Fail
54.	MB1 click on a column header of choice in the Spreadsheet Display Area to sort the data in the spreadsheet by the data in that column. MB1 click again on the column header, this sorts the data in ascending order. MB1 click once more on the column header, this sorts the data in descending order. Alternating clicks with MB1 will sort the data in ascending order, then descending order.	The data is assorted accordingly.	
55.	MB1 click on a cell in a row of the Spreadsheet Display Area. Verify in the Map and Text Display Areas of the GHG Monitor that the Forecast Zone Map has the correct geographical hazard locations highlighted and that the corresponding text is highlighted in the Text Display. Note: To toggle between the Map and Text Display Areas, you must use the Text and Map buttons in the Display Selector Area of the GHG Monitor.	The entire row is highlighted in the chosen 'Monitor Selection' color.	DR #1376
56.	From Step 20, Alerts should have been defined. Verify the chosen colors and warning time notice of Alert1, Alert2, and Expired Alerts. Note: An alert banner and color change will appear before the expiration time of the alert based upon the alert warning time notice. The alert warning time notice is based upon the Start and End times in the Spreadsheet Display Area. The Start and End times are initialized upon set up of a hazard warning or watch.	The chosen colors and warning time notice of Alert1, Alert2, and Expired Alerts are present.	DR #1375
57.	Close the GHG Monitor. Then MB3 popup the GFE tab and select 'Close'.	The GFE tab closes.	
	End of test.		

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## 5.0 REQUIREMENTS VERIFICATION TRACEABILITY MATRIX (RVTM)

Number	Description	Test Step(s)
SYSR2065	The AWIPS system shall implement the GFE Graphical Hazards	ALL
SYSR2066	The AWIPS system shall implement the GFE GHG Viewer	ALL
SYSR2067	The AWIPS system shall implement the GFE GHG Monitor	ALL
SYSR2069	The AWIPS system shall implement the GFE Formatter Launcher	9-12
SYSR2070	The AWIPS system shall implement the GFE Formatter Data Interface.	9-12
SYSR2358	The AWIPS GFESuite shall implement Prepare the Hazards Data for the GHG Monitor Tests.	1-12
SYSR2359	The AWIPS GFESuite shall implement Saving and Loading Configurations of the GHG Monitor.	13-27
SYSR2360	The AWIPS GFESuite shall implement Using the Display Selector to view both the Map and Text Display Areas.	28-29
SYSR2361	The AWIPS GFESuite shall implement Using the Pane Resizer and Scroll Bars to adjust and resize the Map/Text Display and the Spreadsheet Display Areas.	30-33
SYSR2362	The AWIPS GFESuite shall implement Using the Zoom Features from the Map Pull-Down Menu on the Map and Text Display Area.	34-41
SYSR2363	The AWIPS GFESuite shall implement To Display the Different Types of Maps from the Map Pull-Down Menu and Using the Show Label Feature on the Map and Text Display Area.	42-47
SYSR2364	The AWIPS GFESuite shall implement Using the Map Display Area of the GHG Monitor to Query Hazards based on a Zone.	48
SYSR2365	The AWIPS GFESuite shall implement Using the Text Display Area of the GHG Monitor.	49-52

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