



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL WEATHER SERVICE**

1325 East-West Highway  
Silver Spring, Maryland 20910-3283

OCT 16, 2006

MEMORANDUM FOR: Distribution

FROM: W/OPS2 – John Vankuren

SUBJECT: Follow-On Operational Acceptance Test (FOAT) Plan for the All-Hazards Emergency Message Collection System (HazCollect), dated October 2006

Attached for your information is a copy of the subject test plan defining how the National Weather Service (NWS) will conduct the Follow-On Operational Acceptance Test (FOAT) of the All-Hazards Emergency Message Collection System (HazCollect).

The HazCollect FOAT will start on Monday, October 23, 2006, and end Wednesday November 8, 2006. The FOAT will be conducted at the following NWS Weather Forecast Offices (WFOs):

- WFO Tallahassee in Tallahassee, FL (TAE)
- WFO Paducah in West Paducah, Kentucky (PAH)
- WFO Kansas City/Pleasant Hill in Pleasant Hill, MO (EAX)
- WFO San Francisco in Monterey, California (MTR)
- WFO Sacramento in Sacramento, California (STO)

Please direct any comments or questions to the FOAT Director, Bert Vilorio W/OPS24 at 301-713-0326 ext 131, e-mail [bert.viloria@noaa.gov](mailto:bert.viloria@noaa.gov) or Jae Lee W/OPS24 at 301-713-0326 ext 158, e-mail [jae.lee@noaa.gov](mailto:jae.lee@noaa.gov).

Attachment



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**WFO Paducah, KY (PAH)**

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**WFO San Francisco, CA (MTR)**

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David Soroka – WCM

**WFO Sacramento, CA (STO)**

Elizabeth Morse – MIC  
Kathryn Hoxsie – WCM

**Emergency Managers**

John Fleming – Florida EM  
Ben Nelson – FL state meteorologist  
Walter Atherton – Daviess County KY EM  
Art Botterell – Contra Costa County CA EM

# **Attachment L – Follow-On Operational Acceptance Test Plan**

## **1.0 Introduction**

The HazCollect OAT started on June 5, 2006 and ended July 21, 2006. At the OAT Wrap-Up Meeting, which was held July 26, 2006, the Test Review Group (TRG) did NOT recommend the national deployment of the HazCollect system with the software/configuration tested during the OAT.

During the OAT Wrap-Up meeting, there were 12 reported Priority 2 Test Trouble Reports (TTR) and six Pre-OAT issues that were outstanding and were recommended by the TRG for fixes. However, the Program Office plans to deliver five of the 12 TTRs, and two of six Pre-OAT issues for the FOAT (see Table 2). These fixes will necessitate a new build that will undergo further Development Test & Evaluation (DT&E) testing and a Follow-On OAT (FOAT). Table 2 will include the Program Office status/explanation for those TTRs that are not included for testing during the FOAT.

The Office of Operational Systems, Test & Evaluation Branch (OPS24) will be responsible for planning, conducting, and reporting of the FOAT. The FOAT is scheduled to start November 6 through November 22, 2006. There will be weekly TRG meetings held to adjudicate problems found during testing. The FOAT wrap-up meeting is scheduled for November 29, 2006.

This FOAT Test Plan attachment references the previous OAT Test Plan (dated April, 2006). Information, test conduct, and/or issues that are not specifically addressed in this attachment will still follow the OAT Test Plan document.

## **2.0 Purpose**

The purpose of the FOAT is to verify five out of 12 OAT Priority 2 TTR fixes and two out of 6 Pre-OAT fixes included in the new HazCollect system v1.1, and the DMIS client toolkit v2.3.3 at pre-selected OAT sites, in an operational environment. One TTR (TTR #39, DMIS Help Desk issue) does not require software changes and will be procedurally confirmed during the FOAT. The other four Pre-OAT issues (including a2a file update, Certification & Accreditation test results, NWWS format, and NWEM Guidelines) also do not require software fixes and will be also confirmed during the FOAT. Table 2 will include the Program Office status/explanation for those TTRs that are not included for testing during the FOAT.

In addition to regression testing of current HazCollect message dissemination functionalities, there will be additional test objectives (listed in Section 3.0) that will be verified. The FOAT Test Team, selected FOAT site personnel, and their local emergency managers will participate in the FOAT. If the FOAT is successful, the TRG will recommend the HazCollect/DMIS software for national deployment.

### 3.0 Follow-On OAT Test Objectives and Criteria

- a. **Verify OAT Priority 2 TTRs and Pre-OAT fixes.**  
CRITERIA: The OAT Priority 2 TTRs and Pre-OAT fixes, included in HazCollect v1.1 and DMIS v2.3.3, are verified successfully. These TTRs are listed in Table 2. (*Test Location: OAT sites and WSH*)
- b. **Verify HazCollect system software build v1.1**  
CRITERIA: The HazCollect Server software build v1.1 is functional. (*Test Location: OAT sites and WSH*)
- c. **Verify DMIS client toolkit software build v2.3.3**  
CRITERIA: The DMIS client toolkit software build v2.3.3 is functional. (*Test Location: OAT sites and WSH*).
- d. **Verify the HazCollect EM Registration Process.**  
CRITERIA: The HazCollect EM Registration Process is verified and functional. (*Test Location: WSH*)
- e. **Verify message dissemination at sites with AWIPS OB6.x and OB7.1 builds.**  
CRITERIA: NWEM messages are successfully disseminated at sites with AWIPS OB6.x and OB7.1. (*Test Location: OAT sites or WSH*)
- f. **Verify National message dissemination.**  
CRITERIA: National NWEM messages are successfully disseminated at all HazCollect-enabled weather forecast offices. (*Test Location: OAT sites or WSH*)
- g. **Verify NWS message dissemination.**  
CRITERIA: All NWS messages generated from HazCollect NWEM messages are successfully disseminated for all products. (*Test Location: OAT sites or WSH*)
- h. **Verify correct message format for NWS messages.**  
CRITERIA: All NWS messages generated from HazCollect NWEM messages are successfully disseminated with correct message format. (*Test Location: OAT sites or WSH*)
- i. **Verify the HazCollect rack failover processing.**  
CRITERIA: The HazCollect rack failover and subsequent failback processing are successfully performed. (*Test Location: WSH*)
- j. **Verify the NWEM Guidelines documentation.**  
CRITERIA: The NWEM Guidelines documentation is accurate and available. (*Test Location: OAT sites or WSH*)
- k. **Verify DMIS/HazCollect Help Desk**  
CRITERIA: The DMIS/HazCollect Help Desk is verified and fully functional. (*Test Location: OAT sites or WSH*)

## 4.0 Test Sites and Configuration

### a. Follow-On OAT sites

The pre-selected FOAT sites, point of contacts, and their corresponding local emergency managers are listed in Table 1.

**Table 1 - HazCollect Follow-On OAT Sites**

OAT Site	MIC / WCM	Emergency Managers
<b>WFO Tallahassee (TAE)</b> Love Building Florida State University Tallahassee, FL 32306 (850) 942-8831	<b>Paul Duval (MIC)</b> <a href="mailto:paul.duval@noaa.gov">paul.duval@noaa.gov</a> (850) 942-8831  <b>Robert Goree (WCM)</b> <a href="mailto:bob.goree@noaa.gov">bob.goree@noaa.gov</a> (850) 942-8834 x223 (850) 322-3250 (cell)	<b>John Fleming</b> Florida DCA/DEM <a href="mailto:john.fleming@dca.state.fl.us">john.fleming@dca.state.fl.us</a> (850) 413-9888  <b>Ben Nelson</b> Florida State Meteorologist <a href="mailto:ben.nelson@dca.state.fl.us">ben.nelson@dca.state.fl.us</a> (850) 413-9885
*** monitor only *** <b>WFO Paducah KY (PAH)</b> 8250 KY Highway 3520 West Paducah, KY 42086-6440 (270) 744-6440	<b>Beverly Poole (MIC)</b> (270) 744-6440 x642 <a href="mailto:beverly.poole@noaa.gov">beverly.poole@noaa.gov</a>  <b>Rick Shanklin (WCM)</b> (270)744-6440 x726 <a href="mailto:ricky.shanklin@noaa.gov">ricky.shanklin@noaa.gov</a>	<b>Walter Atherton</b> Daviess Co. KY EM Communications Supervisor 212 St Anne Street Room 3 Owensboro, KY 42301 (270) 685-8448 Office/EOC (270) 929-4257 Cell <a href="mailto:atherton@daviessky.org">atherton@daviessky.org</a>
*** monitor only *** <b>WFO Kansas City/Pleasant Hill (EAX)</b> 1803 North 7 Highway Pleasant Hill, MO 64080-9421 (816) 540-6021	<b>Julie Adolphson (MIC)</b> (816) 540-5147 <a href="mailto:julie.adolphson@noaa.gov">julie.adolphson@noaa.gov</a>  <b>Michael Hudson (WCM)</b> (816) 540-5147 x726 <a href="mailto:michael.hudson@noaa.gov">michael.hudson@noaa.gov</a>	
*** monitor only*** <b>WFO Sacramento (STO)</b> 3310 El Camino Avenue Sacramento, CA 95821 (916) 979-3051	<b>Elizabeth Morse (MIC)</b> <a href="mailto:elizabeth.morse@noaa.gov">elizabeth.morse@noaa.gov</a> (916) 979-3041  <b>Kathy Hoxsie (WCM)</b> <a href="mailto:kathryn.hoxsie@noaa.gov">kathryn.hoxsie@noaa.gov</a> (916) 979-3041	<b>Art Botterell</b> Comm Warning Systems Mgr. <a href="mailto:ABott@so.co.contra-Costa.ca.us">ABott@so.co.contra-Costa.ca.us</a> (925) 646-4461
*** monitor only *** <b>WFO San Francisco (MTR)</b> 21 Grace Hopper Ave, Stop 5 Monterey, CA 93943-5505 (831) 656-1725	<b>David Reynolds (MIC)</b> (831)656-1710 x222 <a href="mailto:david.reynolds@noaa.gov">david.reynolds@noaa.gov</a>  <b>David Soroka (WCM)</b> (831)656-1710 <a href="mailto:david.soroka@noaa.gov">david.soroka@noaa.gov</a>	

### b. Software version and/or configurations

The following software versions, tested during the DT&E, will be used during the Follow-On OAT:

- i. HazCollect system Version 1.1

- ii. DMIS release Version 2.3.3
- iii. AWIPS OB6.x and/or OB7.1

## 5.0 Prerequisites

Before proceeding with the HazCollect FOAT, the following prerequisites include:

- a. The HazCollect system must successfully complete all DT&E tests, including fixes to the OAT Priority 2 TTRs and Pre-OAT issues listed in Table 2, with no reported defects classified as ‘**Critical**’ or ‘**Major**’.
- b. The nine tables used in HazCollect will contain all required NWEM products and correct data including the:
  - A2A (afos2awips file)
  - Broadcast types
  - Federal information processing standards (FIPS) to WFO
  - NWEM Message Categories
  - State FIPS Codes
  - State zones and FIPS codes (correlation)
  - WFO
  - WMO Regions
- c. Required HazCollect documentation, listed in Section 6.0 Support Documentation, is available.
- d. A Follow-On OAT Test Readiness Review meeting is conducted by OPS24 to confirm the HazCollect system is ready to begin the Follow-On OAT.
- e. The emergency managers will have valid DMIS accounts and belong to at least one of the Collaborative Operations Group (COG) level supporting HazCollect – local, state, regional, and national level.
- f. The Dissemination Services (OS51) personnel will notify the NWS dissemination infrastructure users and other related agencies about the HazCollect Follow-On OAT by using a National PNS message
- g. The Follow-On OAT WFOs shall generate their local public information statement (PNS) messages to provide notification to the general public regarding the start of Follow-On OAT testing.

## 6.0 Support Documentation

The list of documentation that will be available by the start of the Follow-On OAT will include:

- a. HazCollect Version Description Document (Battelle)
- b. DMIS Operator’s Manual updated for v2.3.3 (Battelle)
- c. NWEM Guidelines (OS51)

## 7.0 Test Schedule/Conduct

The FOAT will start on November 6, 2006. Before the start of the FOAT, the HazCollect system v1.1, and the DMIS v2.3.3 (formal release) will be handed off to OPS24, on October 26, 2006, in preparation for testing. The FOAT Test Readiness Review meeting will be held November 2, 2006. At this meeting, the TRG will determine if the HazCollect system and DMIS client are ready to go into the FOAT.

Before the start of testing, the HazCollect server will be cleared and configured by Battelle (contractor), including the latest version of all the nine data tables listed in Section 5 Prerequisites (b). From October 26<sup>th</sup> through the 31<sup>st</sup>, the FOAT test team will:

- Install the DMIS client toolkit v2.3.3 on their test computers
- Check DMIS and HazCollect server accounts
- Verify the HazCollect COG Registration process
- Setup the FOAT COGs
- Perform dry-run tests of TTRs fixes and generate a test national message. There will be no actual message transmission during these dry-run testing.
- Cleanup HazCollect server test messages, logs, and message queues (with contractor assistance)

During the FOAT, the following test activities will be performed:

- a. Test Conduct at WFO Tallahassee, FL (TAE)

**The Follow-On OAT test team will be on-site at WFO TAE on November 7 through November 8, 2006.** Testing will include verification of TTR fixes for HazCollect system v1.1 and DMIS client toolkit v2.3.3. At least one National message testing (ADR) is planned for November 8, 2006, with the actual number dependent on whether the national message test results require additional testing. The test team will create one test National message (ADR) which will be routed to all 122 (HazCollect enabled) weather forecast offices. The state messages, generated by the test National message, will be verified using the Product Availability Monitoring (PAMS) logs. There will also be a TRG meeting on November 8, 2006 to discuss problems found during testing

- b. Test Conduct at WFO Paducah, KY (PAH), WFO Kansas City/Pleasant Hill, MO (EAX), WFO Sacramento, CA (STO), and WFO San Francisco, CA (MTR)

**The FOAT testing will begin at WFO PAH, WFO EAX, WFO STO, and WFO MTR on November 13, 2006.** The FOAT test team will not be present at these sites. For these sites, FOAT testing will consist of monitoring activities to verify daily test message dissemination. NWEM products will be verified at WFO EAX as they will have already installed their AWIPS OB7.1 build. There will be a TRG meeting on November 15, 2006 to discuss problems found during testing.

c. Test Conduct at WSH

At WSH, the FOAT test team will continue to test any remaining TTRs and/or listed test objectives in Section 3.0, including continued monitoring of all the EM daily test message dissemination for sites with AWIPS OB6.x and OB7.1. There will be a TRG meeting on November 22, 2006 to discuss problems found during testing.

During the FOAT, there will be no updates performed on the HazCollect database tables. In the event of HazCollect critical failures, including HazCollect data-related issues, the FOAT will be suspended and the HazCollect system will be turned over to Program Office pending resolution. The FOAT testing will resume when the HazCollect system has been delivered, by Program Office, back to the FOAT test team.

The participating emergency managers for WFO TAE, WFO STO, WFO MTR, and WFO PAH will create and post daily test ADR messages starting November 13, 2006 until November 22, 2006. These daily test messages will be created, on weekdays, at around 10:00 AM local time. These test daily ADR messages will provide availability statistics for message dissemination performance. If an actual alert event occurs, the participating emergency managers will create real NWEM messages using the DMIS client toolkit v2.3.3. In either case, OPS24 will track and monitor these test and/or actual messages, using the PAMS logs, for message dissemination.

The FOAT officially ends on November 22, 2006. The FOAT Wrap-Up meeting is scheduled for November 29, 2006 to decide whether to recommend national deployment.

The following OAT Priority 2 TTRs and Pre-OAT issues that will be verified are listed in Table 2.

**Table 2 OAT Priority 2 TTRs and Pre-OAT Issues**

<b>TTR # Pre-OAT Issue</b>	<b>Description</b>	<b>Status (per Program Office)</b>
9	Cannot modify the headline field of the message during a Correction.	Included in HazCollect v1.1/DMIS client v2.3.3
13	Guam and Louisiana state message concerns during a National message test.	Included in HazCollect v1.1/DMIS client v2.3.3
16	Compliance with the CAP 1.1 standard.	Included in HazCollect v1.1/DMIS client v2.3.3
34	DMIS client time zone for Alaska did not have AK9ADT.	Included in HazCollect v1.1/DMIS client v2.3.3
36	Logout command from DMIS client misleading.	Included in HazCollect v1.1/DMIS client v2.3.3
39	DMIS Help Desk Issues.	<b>No software changes.</b> Test team will confirm during the FOAT.

TTR # Pre-OAT Issue	Description	Status (per Program Office)
Pre-OAT 1a	a2a file updates Have we included all changes to the a2a file? Has this file been made available to Battelle to incorporate into HazCollect?	<b>No software changes.</b> HazCollect database tables, including a2a data, have been baselined for the FOAT.
Pre-OAT 1b	Badly formatted messages from NWWWS uplink sites.	<b>No software changes.</b> Test team will confirm during the FOAT.
Pre-OAT 3	Certification & Accreditation (C&A) requirements/test results.	<b>No software changes.</b> C&A test results document has been generated and distributed by Timothy Howard (OST33).
Pre-OAT 5	NWEM Guidelines for ADR update.	<b>No software changes.</b> Test team will disseminate to OAT site for review during the FOAT.
Pre-OAT 21	When adjacent land zone/marine zones share two different WFOs, it can create a scenario where a land zone/marine zone pair is sent to one WFO with the correct BBB encoding, but is sent to the second WFO with the incorrect BBB encoding.	Included in HazCollect v1.1/DMIS client v2.3.3
Pre-OAT 22	At some sites, AWIPS ID in message is improperly constructed, leading to failed message dissemination. This is caused by mismatch between station ID and AWIPS ID for San Juan, Guam, and Pago Pago.	Included in HazCollect v1.1/DMIS client v2.3.3
7*	<i>No restriction in the types of NWEMs that can be issued by an EM.</i>	<b>Not included in HazCollect v1.1/DMIS client v2.3.3</b> <i>Enhancement to be added in the next release targeted for 12/31/06.</i>
8*	<i>An incorrect message was broadcasting on CRS when two ADRs were transmitted at the same time.</i>	<b>Not included in HazCollect v1.1/DMIS client v2.3.3</b> <i>Requires change to HazCollect server design – target date mid December 2006.</i>
10*	<i>Update and Correction limitations.</i>	<b>Not included in HazCollect v1.1/DMIS client v2.3.3</b> <i>Enhancement to be added in the next release targeted for 12/31/06.</i>
12**	<i>Message sent to other COGs was not received.</i>	<i>DMIS has significant enhancements to DMIS 2.3.3 - NWS will retest during DT&amp;E testing to establish if defect still exist and report back to Disaster Management program.</i>

TTR # Pre-OAT Issue	Description	Status (per Program Office)
19*	<i>HazCollect must be able to ingest a CAP message from other EM Systems.</i>	<b>Not included in HazCollect v1.1/DMIS client v2.3.3</b> <i>Being tested independently of the FOAT with completion scheduled for 11/22/06.</i>
27*	<i>HazCollect Interface Issues.</i>	<b>Not included in HazCollect v1.1/DMIS client v2.3.3</b> <i>Enhancement to be added in the next release targeted for 12/31/06 – Requirements are being defined now.</i>

*\* Not included in HazCollect v1.1/DMIS client v2.3.3*

***\*\* Possibly included in HazCollect v1.1/DMIS client v2.3.3. Will retest during DT&E and FOAT.***

The Test Schedule/Calendar information is displayed in Figures 1 and 2.

## 8.0 Test Recommendations and Report

During the FOAT, the FOAT Test Director will prepare weekly reports summarizing any defects, operational issues and test completions. The reports will be distributed to the TRG and any other requested recipients.

At the conclusion of the FOAT, the TRG will review documented problems. **If no defects with Priority 1 deficiencies remain open, including all TTRs and issues listed in Table 2, and operationally acceptable workarounds have been developed and documented for deficiencies that are not fixed, a recommendation will be forwarded to the HazCollect Program Manager to proceed with the national deployment.**

Upon completion of the FOAT, the FOAT Test Director will prepare a separate FOAT Test Report document, including details of any defects, findings, and recommendations. Included in the test report will be completed FOAT questionnaires from the FOAT test personnel and resources who were involved during the FOAT testing.

Figure 1 Test Schedule - October 2006

October 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
October 1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
				Install DMIS v2.3.3, FOAT preparation & dry-runs		
				Hand-off HazCollect for FOAT		
29	30	31	November 1	2	3	4
	Install DMIS v2.3.3, FOAT preparation & dry-runs					

Figure 2 Test Schedule - November 2006

November 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
October 29	30	31	November 1	2	3	4
			Install DMIS v2.3.3			
				Follow-ON OAT Readiness Review Meeting 2:00 PM EST	NATIONAL PNS (OS51)	
5	 6	7	8	9	10	11
	<b>Start of Follow-On OAT</b>  WFO TAE Local PNS	<b>OAT @ WFO TAE</b>  All WFO Local PNS	<b>NATIONAL MESSAGE TEST @ 1:00 PM EST</b>  <b>TRG @ 2:00 PM EST</b>			
12	13	14	15	16	17	18
	<b>START monitoring @ WFO STO, WFO MTR, WFO PAH, &amp; WFO EAX</b>  10AM local:EM daily msg	10AM local:EM daily msg	<b>TRG @ 2:00 PM EST</b>  10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	
19	20	21	22	23	24	25
	10AM local:EM daily msg	10AM local:EM daily msg	<b>End of Follow-On OAT</b>  <b>TRG @ 2:00 PM EST</b>			
26	27	28	29	30	December 1	2
			<b>Follow-ON OAT Wrap-Up Meeting 2:00 PM EST</b>			