



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL WEATHER SERVICE  
1325 East-West Highway  
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OCT 16, 2006

MEMORANDUM FOR: Distribution

FROM: W/OPS2 – John Vankuren

SUBJECT: Operational Acceptance Test (OAT) Report for the All-Hazards  
Emergency Message Collection System (HazCollect), dated October  
2006

Attached for your information is a copy of the subject test report defining how the National Weather Service (NWS) conducted the Operational Acceptance Test (OAT) of the All-Hazards Emergency Message Collection System (HazCollect).

The HazCollect OAT started on Monday, June 5, 2006, and ended Friday, July 21, 2006. The OAT was conducted at the following NWS Weather Forecast Offices (WFOs):

- WFO Pittsburgh in Pittsburgh, PA (PBZ)
- WFO Paducah in West Paducah, Kentucky (PAH)
- WFO San Francisco in Monterey, California (MTR)
- WFO Sacramento in Sacramento, California (STO)
- WFO Anchorage in Anchorage, Alaska (AFC)

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Attachment



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# **OPERATIONAL ACCEPTANCE TEST REPORT**

for the  
**All Hazards Emergency Message  
Collection System  
(HazCollect)**

**October 2006**

**U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Weather Service/Office of Operational Systems  
Field Systems Operations Center/Test and Evaluation Branch**

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## Executive Summary

This report explains the test and evaluation results from the Operational Acceptance Test (OAT), conducted by the National Weather Service (NWS), for the All Hazards Emergency Message Collection System (HazCollect). The report includes the test objectives and criteria, Test Trouble Reports (TTRs), and evaluation results from which conclusions were drawn and recommendations made. The report also contains the test OAT sites and resources used.

In April 1999, the Federal Emergency Management Administration (FEMA) Federal Response Plan (FRP) assigned to National Oceanic and Atmospheric Administration (NOAA), the responsibility of providing the public with the dissemination of critical non-weather information on the NOAA Weather Radio All Hazards (NWR) system. The HazCollect system is a comprehensive solution for the centralized collection and efficient distribution of Non-Weather Emergency Messages (NWEMs). Authorized emergency managers (EM) will use the Disaster Management Interoperability Services (DMIS) desktop client software to write NWEMs in Common Alerting Protocol (CAP) format and send them through the DMIS central processor for authentication. DMIS then sends CAP-formatted NWEM messages to the new HazCollect server.

The HazCollect server receives and validates the NWEM from DMIS, converts the authenticated message to World Meteorological Organization (WMO) format, and then sends it to the NWS dissemination architecture. This architecture includes the Advance Weather Interactive Processing System (AWIPS), the Console Replacement System (CRS), and critical links to the NOAA Weather Wire Service (NWWS) and NOAA Weather Radio All Hazards (NWR), and the general public.

The Office of Operational Systems, Test & Evaluation Branch (OPS24) was responsible for planning, conducting, and reporting of the OAT. The OAT was conducted (in a staggered schedule) between June 5, 2006 through July 21, 2006 at the following National Weather Service Forecast Offices (WFOs) during the dates indicated:

- WFO Pittsburgh, PA (June 5 through July 21)
- WFO Paducah, KY (June 13 through July 21)
- WFO San Francisco, CA (June 20 through July 21)
- WFO Sacramento, CA (June 20 through July 21)
- WFO Anchorage, AK (July 6 through July 21).

The OAT was conducted under the guidelines of the HazCollect OAT Test Plan dated April, 2006. All problems and issues noted during the OAT were documented in the TTRs. These TTRs were adjudicated by the HazCollect Test Review Group (TRG) which met once every week during the entire OAT phase.

Overall, the HazCollect system was able to send messages during on-site testing and daily test messages from the emergency managers. These messages were verified for dissemination and were tracked via logs. However, there were 12 open high priority TTRs that were documented and prioritized to be fixed before initial deployment.

The OAT officially ended on July 21, 2006. At the OAT Wrap-Up conference meeting held on July 26, 2006, the OAT TRG voted 8 No and 5 Yes to recommend the current HazCollect system tested during OAT for deployment. **Based on this vote, the HazCollect OAT TRG does not recommend the current HazCollect system, which was tested during the OAT, for national deployment.**

The Program Office proposed a new software build which addresses the 12 open high priority TTRs. The Program Office has an action to provide a new schedule for the proposed build and a proposed list of TTRs to be fixed and included in the build. The proposed build will necessitate a subsequent Development Test & Evaluation (DT&E) and a follow-on OAT. This new build will be recommended for a National deployment after a successful DT&E and follow-on OAT.

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## Acronyms

ASCII	American Standard Code for Information Interchange
AWIPS	Advanced Weather Interactive Processing System
C & A	Certification and Accreditation
CAP	Common Alerting Protocol
COG	Collaborative Operations Group
CRS	Console Replacement System
CRSFM	CRS Formatted Message
DHS	Department of Homeland Security
DM	Disaster Management
DMIS	Disaster Management Interoperability Services
DT&E	Development Test & Evaluation
EAS	Emergency Alert System
EDIS	Emergency Digital Information Service
EM	Emergency Manager
EMWIN	Emergency Manager Weather Information Network
FEMA	Federal Emergency Management Administration
FRD	Functional Requirements Document
FRP	Federal Response Plan
FSL	Forecast Systems Laboratory
ILS	Integrated Logistics Support
IWT	Integrated Working Team
MIC	Meteorologist In Charge
NCEP	National Center for Environmental Prediction
NCF	Network Control Facility
NGIT	Northrop Grumman Information Technology
NOAA	National Oceanic and Atmospheric Administration
NWEM	Non-weather emergency message
NWR	NOAA Weather Radio All Hazards
NWS	National Weather Service
NWSTG	National Weather Service Telecommunication Gateway
NWWS	NOAA Weather Wire Service
OAT	Operational Acceptance Test
OPS24	Office of Operational Systems, Test & Evaluation Branch
PAMS	Product Acquisition Monitoring System
POC	Point of Contact
SAME	Specific Area Message Encoder
SBN	Satellite Broadcast Network
SLA	Service Level Agreement
ST	System Test
TRG	Test Review Group
TTR	Test Trouble Report
WAN	Wide Area Network
WCM	Warning Coordination Meteorologist
WFO	Weather Forecast Office
WMO	World Meteorological Organization
WSH	Weather Service Headquarters

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## Introduction

This report explains the test and evaluation results from the Operational Acceptance Test (OAT), conducted by the National Weather Service (NWS), for the All Hazards Emergency Message Collection System (HazCollect). The report is organized into two parts: the OAT results and recommendations (Part 1), and the background and test detail description (Part 2):

- Part I summarizes the OAT results documented in the Test Trouble Reports (TTRs) and user evaluation forms completed by the test site personnel and the emergency managers. Section 4 discusses the OAT conclusions which include the OAT objectives results. Section 5 includes the OAT TRG recommendations.
- Part II presents the OAT background information, detailed test objectives/criteria and results description, test configurations, and test conduct.

The Office of Operational Systems, Test & Evaluation Branch (OPS24) was responsible for the planning, conduct, and reporting of the OAT. The OAT was conducted (in a staggered schedule) between **June 5, 2006 through July 21, 2006** at the following National Weather Service Forecast Offices (WFOs) on the dates indicated:

- WFO Pittsburgh, PA (June 5 through July 21)
- WFO Paducah, KY (June 13 through July 21)
- WFO San Francisco, CA (June 13 through July 21)
- WFO Sacramento, CA (June 20 through July 21)
- WFO Anchorage, AK (July 6 through July 21).

The OAT was conducted, by the OAT Test Team (see Attachment B), under the guidelines of the HazCollect OAT Test Plan dated April, 2006.

All problems and issues noted during the OAT were documented in the TTRs (see Attachment C). Selected members from an NWS Headquarters (WSH) Integrated Working Team (IWT) (see Attachment A) met weekly to prioritize identified TTRs prior to their discussion at the OAT Test Review Group (TRG) meetings.

The TRG met for weekly conference calls to coordinate issues, review activities, and agree on TTR prioritization. The TRG members also reviewed the draft of this HazCollect OAT Test Report. The report contains the TRG recommendation for national implementation of the HazCollect system.

## Purpose

The purpose of the OAT was to have NWS OAT test team, field personnel, and local emergency managers evaluate the HazCollect system including installation, documentation, and system operation for at least a 30-day period. The evaluation verified the HazCollect system server software usability and system stability during operational use in an NWS facility (WFO) and at a local emergency manager office. This evaluation provides information for NWS management to use in making the decision for a national deployment of the HazCollect system.

## **PART I: HazCollect OAT Summary, Results, and Recommendations**

Part I presents the OAT test results summarized into five separate sections. Section 1 contains the installation information. Section 2 contains brief highlight information regarding the testing activities performed, including subsequent user survey responses. Section 3 details the TTRs including prioritization information and per priority level counts. Section 4 includes the conclusions based on test results and how the test objectives were met/not met and the voting results from the OAT Wrap-Up meeting. Section 5 will contain the TRG recommendations.

### **1.0 Installation**

Installation activities were comprised of the Disaster Management Interoperability System (DMIS) client software, the HazCollect server software, and the Advance Weather Interactive Processing System (AWIPS) build.

#### **1.1 DMIS Installation**

The DMIS software is the client program that allows the authorized local emergency managers (EM) to create and/or edit their alert messages and to post them to the existing NWS infrastructure for dissemination. All EMs and the OAT Test Team (OPS24) successfully loaded the DMIS Version 2.3.1 onto their test computers running Microsoft Windows operating system. The EMs confirmed their successful installations at the Readiness Review Meeting held May 31, 2006. During the start of the OAT, the DMIS Version 2.3.2 was also available for update. During the OAT testing, both versions were tested successfully. Additionally, the DMIS client software Version 2.3.2 was installed successfully at each of the Weather Forecast Office (WFO) OAT sites, onto a test computer running Microsoft Windows operating system during on-site testing.

At the Readiness Review Meeting, the emergency managers verified they have successfully created their respective Collaborative Operations Groups (COG). COGs allow the EMs to be authorized and authenticated for login into DMIS with their specified list of areas and appropriate scope (local).

#### **1.2 HazCollect Server Installation**

The HazCollect Server Version 1.0 was successfully pre-installed by Battelle (contractor) before the start of the OAT. The HazCollect server also included the HazCollect Server Database Version 1.0. Before the start of the OAT, Battelle cleared all HazCollect servers (application and database servers), including all server input and output directories. Additionally, the HazCollect system tables were populated with the appropriate lookup data (areas, zones, etc).

Battelle provided the OAT Test Team with login access to the HazCollect Server Administration and the COG Administration websites, and for each of the HazCollect application servers located at Silver Spring, MD and at the backup site at Stafford, VA. This access was essential and was heavily utilized during the OAT for message tracking and verification

On May 31, 2006, the OAT Test Team members indicated a deficiency in the afos2awips (a2a) data that was pre-installed on the HazCollect server. Subsequently, the OAT Test Team successfully updated the a2a file on the HazCollect server, via the HazCollect Server Administration website, in preparation for the OAT.

### **1.3 AWIPS Installation**

The HazCollect Tiger Team was responsible for the verification of the AWIPS OB6.0 Phase III Final installation at all the OAT sites. Additionally, the Tiger Team was responsible for all related HazCollect activation and setup in AWIPS and Console Replacement System (CRS) in preparation for the OAT. At the Readiness Review Meeting held May 31, 2006, the HazCollect Tiger Team [Peter Pickard, Point of Contact (POC)] verified that the OAT sites have successfully installed the required AWIPS OB6.0 build.

The Tiger Team also enabled each OAT site for HazCollect, based on when on-site testing was performed. This was verified by the OAT test team during the system verification, after the kickoff meeting, at each of the OAT sites. See Attachment H for the OAT test schedule which includes per site activation.

For a summary report from the HazCollect Tiger Team, including background, scope of tasks, and current status, see Attachment I.

## **2.0 Operational Acceptance Test**

At the Readiness Review Meeting held May 31, 2006, the TRG verified that the HazCollect system was ready for the OAT. Section 2.1 summarizes the OAT testing and Section 2.2 discusses the average response ratings for all the OAT site personnel and emergency manager responses.

### **2.1 Test Summary**

The OAT testing started on June 5, 2006 at WFO Pittsburgh, PA (PBZ). The OAT test team was on-site from June 5 through June 7, 2006. Most of the failover and HazCollect mode/DMIS status testing were successfully performed at WFO PBZ. The following week, the OAT test team started the OAT at WFO Paducah, KY (PAH) on June 12. The team was on-site through June 13, 2006.

Test personnel from OPS24, the Dissemination Services (OS51), and from the test sites started the OAT at WFO San Francisco, CA and at WFO Sacramento, CA on June 20 and were on-site until June 21, 2006. The OAT test team proceeded to start the OAT at WFO Anchorage, AK (AFC) on July 6 through 7, 2006.

On every Wednesday, (except WFO AFC), during each of the weeks that the test team were on-site, TRG meetings were held to discuss problems found. The TTRs logged each week were pre-mitigated at the pre-TRG meeting with the IWT members before being presented to the whole TRG for adjudication. After the OAT was started at each of the OAT sites, the local emergency

managers created their daily test messages except for Allegheny County, PA and Kenai Peninsula Borough, AK until July 21, 2006.

For detailed testing activities for each of the OAT sites and at WSH, see Part II Sections 2.3 to 2.8.

## 2.2 Questionnaires / User Surveys

After the OAT, OPS24 provided all OAT site POCs and EMs with questionnaire forms for their responses after working with DMIS and HazCollect. Two separate forms were provided, one for just OAT sites and the other just for EMs.

Each of the forms allowed users to rate listed HazCollect and/or DMIS evaluation statements, including documentation and general implementation status. The ratings were:

- Rating 1: **Excellent**. Performed in a manner that could not be improved
- Rating 2: **Good**. Performed well, met field needs and offered some improvements
- Rating 3: **Satisfactory**. Performed in a manner that meets basic field needs.
- Rating 4: **Deficient**. Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds
- Rating 5: **Unsatisfactory**. Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations
- N/A: **Not applicable**

For the OAT site forms, the form fields included user name and title, site location, dates of testing, and AWIPS Build used during the test. For the EM form, the form fields included test site, user name and title, dates of testing, COG name and level. Both of the forms requested additional comments from the users for any rating of a 4 or a 5. Optional comments regarding the DMIS and HazCollect systems, including system implementation, were also requested.

The **average ratings** for forms received by OPS24 from the OAT sites are displayed in Table 1 and emergency managers in Table 2. Ratings that had a value of N/A were not factored into the average ratings values.

**Table 1 – OAT Site Personnel User Survey Average Ratings**

Statement	Average Rating
HazCollect documentation, including any training materials, is adequate and accurate.	2.5
AWIPS Information Note 20 instructions are adequate and accurate.	2.75
CRS Maintenance Note 63 instructions are adequate and accurate.	2.5
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.	3.0
HazCollect NWEM dissemination under non-severe weather conditions.	2.4
HazCollect NWEM dissemination under severe weather conditions.	<b>All responded N/A</b>
HazCollect effect on existing NWS infrastructure/dissemination systems	2.2

Statement	Average Rating
HazCollect effect on WFO operators or forecasters workload.	2.2
HazCollect is suitable for general implementation.	2.8

**Table 2 – Emergency Manager User Survey Average Ratings**

Statement	Average Rating
DMIS documentation, including any training materials, is adequate and accurate.	3.3
Microsoft LiveMeeting training sessions	2.6
HazCollect authentication and authorization processing.	2.3
DMIS software user interface ease of use.	3.3
DMIS software dissemination of CAP formatted NWEM.	3.0
HazCollect alert response and/or any error notification back to DMIS.	1.7
DMIS effect on emergency manager workload.	3.0
DMIS software is suitable for general implementation.	4.5
HazCollect is suitable for general implementation.	3.3

For the actual forms received by OPS24 from each of the OAT site personnel and EMs, see [Attachment F](#).

### 3.0 Test Trouble Reports

TTRs written during the OAT, in addition to problem descriptions, has a specific **Priority** Level and an **Impact** level. The **Priority** value prioritizes any defect that was found during the duration of the OAT. This value provides for when or how the problem is planned to be resolved. The initial defect Priority was initially assigned (sorted in ascending severity) as:

- a. Priority 1 – Immediate fix
- b. Priority 2 – Include in the next build
- c. Priority 3 – Include in a future build
- d. Priority 4 – Undetermined

The **Impact** field deals with how each problem affects the overall NWEM message broadcast mission. The following Impact values include:

- a. Impact 1 – Malfunction of required functionality; no workaround
- b. Impact 2 – Malfunction of required functionality with reasonable workaround
- c. Impact 3 – Routine deficiency; loss of minimum capability
- d. Impact 4 – Watch Item
- e. Impact 5 – Minimum to no impact; nice to have

During the OAT, Craig Schmidt (WR1) recommended that the Priority levels that are designated for new TTRs be updated to definitively reflect how a problem is going to be resolved. He recommended that:

**Priority Level 2** should change from “Include in the next build” to “*Include in the next build before initial deployment*”

**Priority Level 3** should change from “Include in a future build” to “*Include in a next build after deployment*”.

The TRG subsequently agreed to the updated prioritization levels. OPS24 also added that any outstanding Priority 1 (Need immediate fix) TTR could result in the temporary suspension of the OAT.

By the end of the OAT and verified at the OAT Wrap-Up meeting, there was a total number of **35 TTRs** generated (see Attachment C). There are **22 open TTRs** which are divided into the following:

- 0 Open Priority 1 TTRs
- **12 Open Priority 2 TTRs (these are TTRs that are designated to be fixed before initial deployment)**
- 7 Open Priority 3 TTRs
- 3 Open Priority 4 TTRs

For an overall list of all TTRs documented during the OAT, including Priority, Impact, and Status information, see Attachment C.

For a list of all Priority 2 TTRs documented during the OAT, including their initial Program Office status and target dates, see Attachment D.

During the OAT Wrap-Up meeting held July 26, 2006, the Program Office had proposed generating another build which will mitigate the 12 open TTRs. To date, current scheduling status from Program Office only addressed **10 of the 12 open TTRs**. Both **TTR #8** and **TTR #27** (See Attachment C) will require further discussion with Battelle for resolution.

Additionally, Battelle Help Desk also generated problem tickets miscellaneous DMIS client-related issues and problems found during the OAT. At the OAT Wrap-Up meeting and based on the ticket report at July 21, 2006, the following ticket counts include:

- 35 - DMIS Trouble Tickets generated
- **20 - Open tickets**
- 4 - Priority 3 (Elevated) tickets
- 11 - Priority 4 (General) tickets
- 5 - Priority 5 (Informational) tickets

## **4.0 Conclusions**

The conclusions from the OAT were derived from the OAT test objectives results and the outcome of the TRG voting results from the OAT Wrap-Up meeting held July 26, 2006. The results for the OAT objectives were based on test results from both on-site and WSH testing.

## 4.1 OAT Objectives and Results

The summary of all the HazCollect OAT test objectives, criteria, and results are listed in Table 3. For a detailed description of the test objectives results, see Part II Section 1.2 Detailed Test Objectives, Criteria, and Results.

**Table 3 - HazCollect OAT Objectives And Results**

Item	Test Objective	Criteria	Result
1	<p><b>Confirm the following site setup and configurations:</b></p> <ul style="list-style-type: none"> <li>i. DMIS setup for emergency managers.</li> <li>ii. HazCollect server setup.</li> <li>iii. OAT sites are configured (for AWIPS OB6.0 and CRS) per HazCollect Tiger Team-approved instructions.</li> </ul>	The setup and configurations listed above are complete and accurate.	<b>PASS</b>
2	<b>Verify the operation of the HazCollect system.</b>	The HazCollect and OAT site service operations perform successfully without degrading current WFO operations. The current dissemination of any existing non-HazCollect NWEMs is still fully functional.	<b>FAIL</b>
3	<b>Verify HazCollect products for end-to-end dissemination.</b>	HazCollect test and actual (in the event of actual emergencies) NWEM messages are created, tested, and verified from end-to-end through the existing NWS dissemination infrastructure. All products disseminated by HazCollect will be available 99.99% of the time.	<b>PASS</b>
4	<b>Verify the contents of the required HazCollect documents (see 2.2.2.2 Support Documentation of the HazCollect OAT Test Plan)</b>	HazCollect support documentation listed in Section 2.2.2.2 of the HazCollect OAT Test Plan is accurate and available.	<b>PASS</b>
		User surveys will rate from 1 to 5. A rating of 3 and above is considered successful.	<b>FAIL</b>
5	<b>Verify the HazCollect operational modes (Active Operations, Training Operations, and Test Operations).</b>	The HazCollect operational modes (Active, Training, and Test) are fully functional 99.99% of the time.	<b>PASS</b>
6	<b>Verify the failover and recovery functionality of the DMIS server.</b>	The DMIS server performs failover and recovery successfully.	<b>PASS</b>

Item	Test Objective	Criteria	Result	
7	Verify the failover and recovery functionality of the HazCollect server.	The HazCollect server performs failover and recovery successfully 99.99 % of the time.	PASS	
8	Verify the failover and recovery functionality of AWIPS (dx processor).	The existing AWIPS failover and recovery functionality is fully functional 99.98% of the time.	PASS	
9	Verify user-related HazCollect performance-based test procedures (5)	Specific performance tests are performed and meet performance-based thresholds stated in the Functional Requirements Document including:	PASS	
		1. Verify the transmission of NWEM message to dissemination systems within 2 minutes of submission from EM interfaces.		
		2. Verify message processing for up to 20 simultaneous users and 20 concurrent emergency messages.		FAIL
		3. Verify the EM authentication into HazCollect within 5 seconds.		PASS
		4. Verify EM authorization failure message within 10 seconds.		NOT TESTED
5. Verify HazCollect acknowledgement, to the EM, of NWEM creation and pending dissemination within 10 seconds.	FAIL			
10	Confirm that instructional materials and/or user training prepare HazCollect system administrators and emergency managers	OAT site Warning Coordination Meteorologist (WCMs), and emergency managers have attended the Battelle-provided computer-based training, or have read the DMIS users guide for NWEM preparation.	PASS	
		User surveys will rate from 1 to 5. A rating of 3 and above is considered successful.	FAIL	
11	Confirm the following non-OAT activities performed during the OAT:  i. Certification & Accreditation (C&A) testing ii. HazCollect Tiger Team activities iii. Additional failover testing requested by OST.	The HazCollect and OAT site service operations perform successfully when the listed activities (i-iii) above are conducted.	PASS	

## 4.2 TRG Voting Results

At the HazCollect OAT Wrap-Up meeting that was convened on July 26, 2006, the TRG voting members were announced. The members were told that the vote was for “...**a recommendation whether the HazCollect system was ready for initial deployment with the current software tested during the OAT.**” The voting results are listed in Table 4.

**Table 4 - HazCollect OAT Wrap-Up Meeting Voting Results – July 26, 2006**

Name/Organization		Function	Vote
Rick Watling	ER1	Eastern Region HazCollect POC	Yes*
Mike Mach	SR11	Southern Region HazCollect POC	Yes
Gregory Noonan	CR1	Central Region HazCollect POC	No
Craig Schmidt	WR1	Western Region HazCollect POC	No
Sam Albanese	WFO AFC WCM	OAT Site POC	Yes
Jerald Dinges	OPS24	TRG Chair	No
Steven Schofield	OST11	HazCollect Program Manager	Yes
Jon Adkins	OST31	HazCollect Project Engineer	Yes
Joel Nathan	OPS23	CRS/NWEM Formatter Software Mgr	No
Arthur Kraus (stand-in for Herb White)	OS51	Dissemination Services Support	No
Steven Golston (stand-in for Gregory Zwicker)	OPS17	Dissemination Systems	No
Iyad Salman	OPS12	HazCollect Integrated Logistics Support Lead	No
Daniel Starosta (via email)	CIO12	NWSTG POC	No**
<b>Yes Votes</b>			5
<b>No Votes</b>			8
<b>TOTAL VOTES</b>			13

\***Conditional Yes** – TTRs #9 and #10 must be fixed before deployment.

\*\***No** pending the receipt and review of the Service Level Agreement (SLA).

## 5.0 Recommendations

Based on the tally of the votes at the OAT Wrap-Up meeting (8 No and 5 Yes for recommending deployment), on the 12 Open Priority 2 TTRs, and on review of the OAT conclusions from Section 4.0, **the HazCollect OAT TRG does not recommend the national deployment of the HazCollect system with the current software/hardware configuration as tested during the OAT.**

Steven Schofield (HazCollect Program Manager) proposed to generate a new development schedule and subsequently a new HazCollect software build based on fixes to the open Priority 2 TTRs presented at the OAT Wrap-Up meeting. A new HazCollect software build schedule will be presented by the Program Office and agreed to by the TRG, including any Development Test & Evaluation (DT&E) and follow-on OAT. After all test activities have concluded, the TRG will again adjudicate any new problems and vote for the recommendation for the initial HazCollect deployment.

Additionally, at the HazCollect Post OAT meeting held August 9, 2006, Steven Schofield generated the formal list of waivers for all open/failed requirements from the Functional Requirements Document (FRD). These waivers were approved by Program Office and by the TRG (see Attachment J for the list of waivers).

The HazCollect OAT TRG is recommending the following items to be addressed and validated by means of a follow-on OAT prior to start of a HazCollect initial deployment:

1. **All outstanding Pre-OAT issues must be addressed.**

Before the start of the OAT, there were 9 Pre-OAT issues that were identified by the TRG. At the OAT Readiness Review Meeting held in May 31, 2006, the TRG decided that the OAT should continue and these issues would be addressed at the end of the OAT. However, at the OAT Wrap-Up meeting held on July 26, 2006, there were still some open issues that would need to be resolved as listed in Table 5.

**Table 5 – HazCollect Open Pre-OAT issues**

Item	Issue	Disposition/Status	Point Of Contact
1a	<b>a2a file updates</b> Have we included all changes to the a2a file? Has this file been made available to Battelle to incorporate into HazCollect?	<u>Opened NCF ticket TT257346</u> for a2a problem.	Steve Schofield Jon Adkins Herb White

1b	<b>Badly formatted messages from NWS uplink sites.</b>	<u>Opened NCF ticket TT257347</u> <i>MarySue Schultz, Global Systems Division (GSD) determined, on August 3, 2006, that the cause for the badly formatted (carriage return problems) messages was the TextDB software removing the carriage return linefeeds from the message. NCF has now reassigned the problem ticket to GSD.</i>	Steve Schofield Jon Adkins
3	<b>Certification &amp; Accreditation (C&amp;A) requirements/test results.</b>	<i>Per Tim Howard's e-mail dated 8/17/06, the HazCollect C&amp;A package is scheduled for delivery to CIO on Sept 1, 2006.</i>  <i>Nessus scanning has been completed and the STE report is being prepared</i>	Tim Howard
5	<b>NWEM Guidelines for ADR update.</b>	<i>Single ADR update will currently replace other active NWEMs. This issue will be mitigated by the automatic pass through capability in AWIPS OB7.2.</i>  <i>However, an NWEM Guidelines document was generated by OS51 and sent out for review July 25, 2006 as an operational awareness guideline.</i>	Herb White
8	<b>Adjacent marine zones plus shared weather events between WFOs causes improper coding of BBB field in WMO header.</b>	<i>Included in the list of pre-OAT issues proposed to be fixed before deployment.</i>	Steve Schofield Jon Adkins
9	<b>AWIPS ID mismatch with station ID. (e.g., San Juan, Guam-Pago Pago).</b>	<i>Included in the list of pre-OAT issues proposed to be fixed before deployment.</i>	Steve Schofield Jon Adkins

**ACTION:**

*Steven Schofield (HazCollect Program Manager) will re-address the outstanding open Pre-OAT issues before another vote for a recommendation for deployment is made.*

**2. All Priority Level 2 TTRs must be fixed.**

At the HazCollect OAT Wrap-Up meeting held on July 26, 2006, the TRG voted **8 No** to **5 Yes** votes for the recommendation to deploy the HazCollect system. Most of the **No** votes were based on the unresolved Priority Level 2 TTRs and these TRG voting member would like all Priority Level 2 TTRs to be fixed before initial deployment.

For a complete list of Priority 2 OAT TTRs, including each of the TTR current status and target dates for completion, see Attachment D.

**ACTION:**

*Steven Schofield (HazCollect Program Manager) proposed a new build that would include mitigated list of fixes that will be discussed and agreed to by the TRG. After this list has been finalized, a new development schedule will be performed. Subsequent DT&E testing and a follow-on OAT will be performed respectively.*

**3. Receipt and review of the HazCollect Service Level Agreement (SLA) by Daniel Starosta, NWS Telecommunication Gateway (TG) POC.**

A Service Level Agreement (SLA) is used to define performance and operational responsibilities. The HazCollect SLA should state which organizations are responsible for each task listed in the Integrated Logic Support (ILS) plan. Daniel Starosta voted **No** for initial deployment until this agreement has been received and reviewed by him.

**ACTION:**

*The HazCollect SLA document should be generated and disseminated to the TRG, including Daniel Starosta, so the appropriate vote can be amended.*

**4. Perform Follow-On OAT test**

A Follow-On OAT will need to be performed to test, in an operational environment, and verify the contents of the proposed HazCollect build.

**ACTION:**

*OPS24 will conduct the Follow-On OAT to test and verify the proposed HazCollect build Version 1.1.*

## **PART II: HazCollect OAT Detailed Description**

### **1.0 Background**

This section contains background information about the HazCollect system under test, the detailed test objectives as outlined in the OAT Test Plan and their corresponding results, and the OAT test site configurations.

#### **1.1 Prior Testing**

Prior to the OAT, Battelle and NWS conducted DT&E testing at the Battelle facility in Stafford, VA and coordinated with other NWS test facilities and weather forecast offices around the country. The following test dates for the different DT&E Phases included:

- Demo Test: February 22, 2005
- DT&E 1: June 22-28, 2005
- DT&E 2: Aug 29-Sept 2, 2005
- DT&E 2 Part 2: Dec 1-15, 2005
- Final DT&E: April 28-May 3, 2006

At the OAT Readiness Review Meeting held on May 31, 2006, the TRG concluded that the HazCollect system is ready to go to OAT, with pre-existing issues that were listed in Attachment G.

#### **1.2 Detailed Test Objectives, Criteria, and Results**

Conclusions are based on the OAT information gathered from the operational use of the HazCollect system at the OAT sites. Based on the test objectives and criteria set by the HazCollect OAT Test Plan, the general conclusion for each of the following test objectives include:

- a. **Confirm the following site setup/configurations:**
  - i. **DMIS setup for emergency managers**
  - ii. **HazCollect server setup**
  - iii. **OAT sites are configured (for AWIPS OB6.0 and CRS) per HazCollect Tiger Team-approved instructions.**

CRITERIA: The setup and configurations listed above are complete and accurate.

***PASS:** The emergency managers had installed their requisite DMIS client software (Version 2.3.1 or 2.3.2). The HazCollect server (Version 1.0 and Database Version 1.0) was cleaned and configured prior to OAT testing. The OAT sites AWIPS (OB6.0 Final Phase III) were installed and CRS database were configured prior to OAT testing. The installation documentation from the Tiger Team has been updated per findings from the OAT.*

- b. **Verify the operation of the HazCollect system.**

CRITERIA: The HazCollect and OAT site service operations perform successfully without degrading current WFO operations. The current dissemination of any existing non-HazCollect NWEMs is still fully functional.

**FAIL:** During the OAT, there was NO degradation of existing WFO operations. However there are still currently **12 open Priority 2 TTRs** documented during the OAT (see Table 2).

### **System Events/Anomalies**

The OAT test was planned to have NWEM messages sent from the HazCollect server to the ANCF. However, due to internal NCF testing, the NWEM messages were routed to the BNCF from June 5 through June 15. The processing was switched back to the ANCF on June 15.

From June 30 to around July 13, 2006, it was observed that messages were being sent from Battelle server to BNCF instead of the Silver Spring server to ANCF. After investigation, there was a connection problem with the Silver Spring server and ANCF due to required processes in ANCF not being up. When required processes in ANCF were restarted, subsequent NWEM messages from the Silver Spring server were properly sent to the ANCF.

### **Downtime during OAT.**

There was at least 24 hours downtime (June 29-30) for the missing 'New NWEM' on the DMIS client toolbar causing inability to create new messages. The HazCollect System was operational during this period.

#### **c. Verify HazCollect products for end-to-end dissemination.**

**CRITERIA:** HazCollect test and actual (in the event of actual emergencies) NWEM messages are created, tested, and verified from end-to-end through the existing NWS dissemination infrastructure. All products disseminated by HazCollect will be available 99.99% of the time.

**PASS:** During the OAT, there were a total of 115 test messages that were created and disseminated either during on-site testing, failover testing, EM daily messages, and other miscellaneous testing in support of the OAT. See Attachment E for all tests activities performed.

To verify message end-to-end transmission and dissemination times, OPS24 used the HazCollect Server Administrator Message Queue utility (received time) and the Product Acquisition Monitoring System (PAMS, logStreamExpect log) during the OAT. The average dissemination times for both EM daily test messages were under the required 2 minutes. On June 21, PAH EM 'tried' to send three test messages. Only 1 was verified at the PAMS log. Incidentally the dissemination time was 4 minutes 43 seconds. Otherwise, all test messages were verified (including all EM daily messages). On same day, the PAH EM reported connection problem issues with the DMIS client. He had tried two attempts to send but was not successful. The third attempt was successful, as reported on the logs.

*During on-site testing at the OAT sites, all disseminated test messages were logged and verified. All WFO OAT sites, except WFO AFC, averaged less than 2 minutes for dissemination times for all test messages. Test messages sent from WFO Anchorage averaged 2 minutes 14 seconds.*

### **Test limitations**

*Only two EMs (Walt Atherton & Art Botterell) were actively creating and posting test administrative messages (ADR) messages. Live testing of test ADR messages in PA was suspended by Pennsylvania Emergency Management Agency (due to flooding in PA). Live ADR testing was allowed by PEMA on July 17 until Aug 1, but PA EM (David Johnson) had problems with the DMIS client software so he was not able to create and post his daily test ADR messages.*

*The state Emergency Alert System (EAS) officials in Alaska instructed the WFO AFC that there will be no live testing in AK. To proceed with the test, WFO AFC used a test transmitter for incoming NWEM messages. Actual weather radio broadcasts, during the OAT testing at AFC, were sent via a pre-created broadcast cycle using their backup Interavia system. Consequently, the AK EM (Scott Walden) was not able to send his test daily ADR messages.*

**d. Verify the contents of the required HazCollect documents (see 2.2.2.2 Support Documentation of the HazCollect OAT Test Plan).**

**CRITERIA:** HazCollect support documentation listed in Section 2.2.2.2 of the HazCollect OAT Test Plan is accurate and available. User surveys range from 1 to 5. A rating from 1 to 3 is considered successful.

***PASS:*** *During the OAT, Herb White informed OPS24 that the Instructions for Statewide Products (proposed inclusion into NWSI 10-518) should be done by the start of the OAT. While not specifically included in the OAT Test Plan list of required documentation, this document is important for deployment because it deals with the setup of state products. Herb White has recently informed OPS24 that this proposed inclusion update to NWSI 10-518 will likely be done in the next 6 months.*

***FAIL:*** *User surveys were sent out July 24<sup>th</sup> to all OAT sites and their corresponding EMs. These surveys were returned to OPS24 by August 4, 2006. Some surveys included ratings of greater than 3 for support documentation. See Attachment F for all the OAT sites and emergency manager user surveys.*

**e. Verify the HazCollect operational modes (Active Operations, Training Operations, and Test Operations).**

**CRITERIA:** The HazCollect operational modes (Active, Training, and Test) are fully functional 99.99% of the time.

***PASS:*** *During the OAT, all operational modes and DMIS status values were tested successfully. For most of the time, the HazCollect server mode was Active. See Attachment E for all test activities performed.*

**f. Verify the failover and recovery functionality of the DMIS server.**

CRITERIA: The DMIS server performs failover and recovery successfully.

***PASS:** On July 19, the DMIS failover test was successfully performed. Neil Bourgeois (Battelle) provided NWS with a test configuration file (VPNConfig.xml) that will redirect messages to the Ashburn, VA server. A test message (sent to HazCollect server only and NOT disseminated) was created and verified by OAT Test Team. The original configuration VPNConfig.xml file was reset to previous version.*

**g. Verify the failover and recovery functionality of the HazCollect server.**

CRITERIA: The HazCollect server performs failover and recovery successfully 99.99 % of the time.

***PASS:** On June 5 & 7, at the WFO PBZ, the following failover tests were performed successfully.*

- Within rack
- Between rack
- Circuit failover
- Failback test
- AWIPS failover

**h. Verify the failover and recovery functionality of AWIPS (dx processor)**

CRITERIA: The existing AWIPS failover and recovery functionality is fully functional 99.98% of the time.

***PASS:** On June 7, at WFO PBZ, the dx1 processor was failed, and the processing failed over to dx2. A test ADR message was sent successfully. The dx1 processor was restored, and another test ADR message was successfully sent.*

**i. Verify user-related HazCollect performance-based test procedures (5).**

CRITERIA: Specific performance tests are performed and meet performance-based thresholds stated in the Functional Requirements Document including:

1. Verify the transmission of NWEM message to dissemination systems within 2 minutes of submission from EM interfaces.
2. Verify message processing for up to 20 simultaneous users and 20 concurrent emergency messages.
3. Verify the EM authentication into HazCollect within 5 seconds.
4. Verify EM authorization failure message within 10 seconds.
5. Verify HazCollect acknowledgement, to the EM, of NWEM creation and pending dissemination within 10 seconds.

- 1) ***PASS:** The two-minute testing was verified successfully as every test ADR message is sent through HazCollect. For the EM daily messages, see Item #3 as time dissemination issue. During the days that the messages were being sent from the Battelle server at Stafford, VA to the BNCF, all daily test messages were being disseminated beyond 2 minutes. When the*

*processing was corrected and sent from HazCollect server at Silver Spring, MD, to the ANCF, the dissemination times were under 2 minutes.*

- 2) **FAIL:** *Multiple EM testing (2 users sending messages concurrently) failed at WFO PBZ (see TTR #8).*
- 3) **PASS:** *Test 200 (5-second authentication) passed at WFO MTR. During retest at WFO AFC, logging in and logging out problem (TTR #36) caused 'New NWEM' toolbar button to not be displayed.*
- 4) **NOT TESTED:** *This authorization requirement (Req 200) was waived before the start of the OAT (pre-Readiness Review Meeting) and the test was not performed during the OAT.*
- 5) **FAIL:** *Test 220 (10-second acknowledgement) failed at both WFO MTR (11.5 seconds) and at WFO AFC (12.5 seconds) on retest. This is Req 201.*

**j. Confirm that instructional materials and/or user training prepare HazCollect system administrators and emergency managers.**

CRITERIA: OAT site Warning Coordination Meteorologist (WCMs), and emergency managers have attended the Battelle-provided computer-based training, or have read the DMIS users guide for NWEM preparation. User surveys will rate from 1 to 5. A rating from 1 to 3 is considered successful.

**PASS:** *The Battelle LiveMeeting training sessions were provided on December 15 & 16, 2005 and on April 26 & 27, 2006.*

**FAIL:** *User surveys were sent out July 24<sup>th</sup> to all OAT sites and their corresponding EMs. These surveys were returned to OPS24 by August 4, 2006. One user survey rated DMIS documentation and other instructional materials higher than a 3, although this same user did rate the Microsoft LiveMeeting as a 3. See Attachment F for all the OAT sites and emergency manager user surveys.*

**k. Confirm the following non-OAT activities performed during the OAT:**

**i. Certification & Accreditation (C&A) testing**

**ii. HazCollect Tiger Team activities**

**iii. Additional failover testing requested by OST.**

CRITERIA: The HazCollect and OAT site service operations perform successfully when the activities listed above are conducted.

(i) **PASS:** *At the HazCollect OAT Wrap-Up meeting, Tim Howard, who is in charge of the Certification & Accreditation (C&A) testing, was not present due to family emergency. Steve Schofield (HazCollect Program Manager) commented that according to the latest information, the C&A testing is proceeding without problems and that the HazCollect system scan will begin in a couple of weeks.*

(ii) **PASS:** *The HazCollect Tiger Team activities were discussed at the HazCollect OAT Wrap-Up meeting by Peter Pickard. He explained that there are currently*

27 enabled sites for HazCollect. He also added that the AWIPS Application Installation instruction Note 17 has been sent out for review last July 25, 2006.

- (iii) **PASS:** All additional failover testing requested by OST were successfully retested. See Attachment E for all test activities performed during the OAT.

### 1.3 Test Configurations

During the OAT, the following software included the DMIS client software, the HazCollect Server and Database software, and the latest AWIPS software containing HazCollect-related functionality. In Section 1.3.1, Table 6 will list all versions used during the test. Additionally, in Section 1.3.2, the OAT test sites and EM configurations are listed in Tables 7 and 8 respectively.

#### 1.3.1 Software Versions

**Table 6 - HazCollect Software Versions**

Software	Version
DMIS client	2.3.1 and 2.3.2
HazCollect Server	1.0
HazCollect Database	1.0
AWIPS	OB6.0 and OB6.1

#### 1.3.2 Test Site and Emergency Manager Configurations

**Table 7 - HazCollect Test Site Configurations**

OAT sites (Site ID)	Transmitter configuration	AWIPS	Test COG	Scope
<b>WFO Pittsburgh PA (PBZ)</b> 192 Shafer Road Moon Township, PA 15108 Phone: (412) 262-1591	<b>Large 7</b>	<b>OB6.0</b>	NWS TEST WFO PBZ COG	Local
<b>WFO Paducah KY (PAH)</b> 8250 KY Highway 3520 West Paducah, KY 42086-6440 Phone: (270) 744-6440	<b>Maximum 9</b>	<b>OB6.0</b>	NWS TEST WFO PAH COG	Regional
<b>WFO San Francisco CA (MTR)</b> 21 Grace Hopper Ave, Stop 5 Monterey, CA 93943-5505 Tel: (831) 656-1725	<b>Large 6</b>	<b>OB6.1</b>	NWS TEST WFO MTR COG	Local
<b>WFO Sacramento CA (STO)</b> 3310 El Camino Ave. Sacramento, CA 95821 Phone: (916) 979-3051	<b>Large 5</b>	<b>OB6.0</b>	NWS TEST WFO STO COG	Local

OAT sites (Site ID)	Transmitter configuration	AWIPS	Test COG	Scope
<b>WFO Anchorage AK (AFC)</b> 6930 Sand Lake Road Anchorage, AK 99502-1845 Phone: (907) 266-5102	<b>Maximum 12</b>	<b>OB6.0</b>	NWS TEST WFO AFC COG	Local

**Table 8 – Emergency Manager Configurations**

Emergency Manager	COG	Scope
<b>David Johnson</b> Planner, Emergency Management Division Allegheny County Emergency Services 400 North Lexington St, Suite 200 Pittsburgh, PA 15208 (412) 473-3315 <a href="mailto:DJJohnson@county.allegheny.pa.us">DJJohnson@county.allegheny.pa.us</a>	COG 5623: PA Allegheny County Emergency Services	Local
<b>Walter Atherton</b> Davies Co. KY EM Comms 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>	COG 2072: KY Davies County EMA	Local
<b>Richard Payne</b> Davies Co. KY EM 212 St Anne Street Room 3 Owensboro, KY 42301 (270) 685-8448 Office/EOC (270) 929-4700 Cell <a href="mailto:rpayne@daviessky.org">rpayne@daviessky.org</a>		
<b>Art Botterell</b> Community Warning System Manager (925) 313-9627 <a href="mailto:abott@so.cccounty.us">abott@so.cccounty.us</a> <a href="mailto:acb@incident.com">acb@incident.com</a>	COG 4031: CA Contra Costa County CWS	Local
<b>Scott Walden</b> 907-262-2097 <a href="mailto:SWalden@borough.kenai.ak.us">SWalden@borough.kenai.ak.us</a>	COG 4451: AK Kenai Peninsula Borough OEM	Local

In addition to the OAT sites and EM COGs stated in Tables 7 and 8, WSH test COGs used for the OAT included:

- NWS Test Group COG (National scope) – this COG was used for National messages.
- NWS Test HQ State COG (State scope) – this COG was used for state message testing and was updated for which OAT site was being tested during the OAT.

## 1.4 Problem Documentation and Classification

The OAT test team documented HazCollect problems by creating TTRs using TestTrack Pro. The TTRs were first reviewed by the HazCollect pre-TRG IWT for classification and priority. These TTRs are further adjudicated by the TRG at the TRG meetings for all TTRs that were created for the previous week.

The Test Review Group classified the documented TTRs via the **Priority** and the **Impact** values (see Part I, Section 3.0). During the OAT testing, a TTR with a **Priority of 1** and an **Impact of 1** would have necessitated a recommendation to the TRG for a temporary suspension of the OAT. The TTRs are documented to the following classifications:

- a. Critical Deficiency – A repeatable problem severely affects HazCollect operations and services; no work-around exists. This TTR would have the **Impact of 1**.

***ACTION:** The TRG recommends suspension of the test to the HazCollect Program Manager. If suspended, the test resumes when the HazCollect Program Manager approves a proposed corrective action. When an approved corrective action is implemented, system and regression testing maybe required before resuming the OAT.*

- b. Urgent Deficiency – A repeatable problem significantly affects HazCollect operations and services; a reasonable work-around exists. This TTR would have the **Impact of 2**.

***ACTION:** The test continues with the current system using a work-around until a permanent fix is available. Once the HazCollect Program Manager approves the fix, only those test areas affected by the problem will be retested.*

- c. Routine Deficiency – A repeatable minor problem does not significantly affect HazCollect operations and services. This TTR would have the **Impact of 3**.

***ACTION:** The test continues with the current system; approved work-arounds may be implanted. Routine deficiencies are submitted by the TRG to the HazCollect Program Manager for adjudication.*

- d. Watch Item – A random or one-time, non-repeatable problem with a potentially significant effect on HazCollect operations and services. This TTR would have the **Impact of 4**.

***ACTION:** The TRG monitors the test activities for recurrence of the problem; if recurrence is documented, the TRG can reconsider re-categorizing the problem.*

- e. Potential Enhancement – Identifies a minimal problem and/or a new requirement/enhancement. This TTR would have the **Impact of 5**.

***ACTION:** The TRG forwards the potential enhancement to the HazCollect Program Manager for adjudication.*

The following terms “Closed” and “Open” used in this test report are defined as follows:

- Closed:** TTRs are resolved and no further action is required to complete the OAT. The item might have been fixed in a patch or in a new build. The fixes may have been incorporated into the individual test sites or into a test build of the software. The fixes may still require further coordination action to implement and verify in the final software build for national deployment.
- Open:** TTRs are those on which developmental work is ongoing. The problem is scheduled for correction, but the work has not been accomplished and will be included in the next build per Priority level adjudication.

## 2.0 Test Conduct

At the OAT Readiness Review Meeting held May 31, 2006, the OAT TRG concluded that the HazCollect system was ready to go to OAT. Prior to the start of the OAT, Battelle (contractor) cleared the HazCollect system, loaded and installed the requisite HazCollect software (see Table 6) on the server and released the appropriate DMIS client software (Version 2.3.1). The DMIS client software was later updated to Version 2.3.2 while OAT testing has already started in WFO PBZ. The WSH OAT test team and all of the participating emergency managers have indicated that they have installed the DMIS Version 2.3.1 on their test computers. Additionally, all of the OAT sites have already pre-installed the AWIPS OB6.0 build. The HazCollect Tiger Team provided resolution for conflicts that arose from these installations at the OAT sites (see Attachment I).

Prior to the start of the OAT, the test team manually created/added the test and EM COGs (see Part II, Section 1.3.2) using the HazCollect COG Administration website. Additionally, on May 31, 2006, the a2a file was updated by the test team to add missing NWEM products in preparation for the OAT.

The OAT started on June 5, 2006 at WFO PBZ (see Part II Section 2.2 Test Schedule). At each test site, the HazCollect system was used in normal operations 24 hours a day, 7 days a week. When the WSH OAT test team was on-site, several tests were performed to verify OAT Test Plan test objectives, failover tests, and determine system performance in operational conditions. Successful message disseminations involved verification at the AWIPS terminal, CRS, and subsequent broadcast on weather radios. WSH test support personnel tracked and confirmed message input and output on the TG and NCF. On-site, the emergency managers tested the DMIS user interface and generated both non-disseminated and disseminated NWEM messages. Additionally, the PAMS logged and tracked message transmissions from the HazCollect server through the NCF, AWIPS, NWWS, and just before sending messages to CRS for broadcast.

The emergency managers created their daily test ADR messages for when their respective OAT sites offices have started their OAT. Only two emergency managers were actively creating and posting daily test messages due to state restrictions (Alaska) for ADR messages, and weather conditions during the OAT that precluded the use of test ADR messages (Pennsylvania). Additionally, an emergency manager attempted to generate an ADR message from Allegheny County, PA after the state restrictions were lifted, but the test resulted in error conditions that

prevented the test messages from being posted. This incident has been reported to the Battelle Help Desk for resolution.

The OAT ended July 21, 2006. For the duration of the OAT, a total of **35** TTRs were generated (see Part I Section 3.0 Test Trouble Reports). There are **22** Open TTRs, and most importantly, there are still **12** Open Priority 2 (must be fixed before initial deployment) TTRs.

For detailed testing activities and test data for each of the OAT sites and at WSH, see Part II Sections 2.3 to 2.8 and Attachment E.

## 2.1 Test Personnel

A combination of personnel from WSH conducted the OAT, with WFO OAT site personnel and their local emergency managers also participating during the test (see Attachment B). Several contractors (Battelle, CSC, and GSD) also provided support during on-site testing and/or afterwards when testing/verification were performed at WSH. The primary OAT test team is listed in Table 9.

**Table 9 – HazCollect Primary OAT Test Team**

OAT Site	On-site Dates	OAT Site Personnel	WSH Personnel
<b>WFO PBZ</b>	June 5-7, 2006	Richard Kane (WCM) Joseph Palko (ITO)	Bert Vioria (OPS24) Jae Lee (OPS24) Art Kraus (OS51)
<b>WFO PAH</b>	June 13-14, 2006	Ricky Shanklin (WCM)	Jae Lee (OPS24) Art Kraus (OS51)
<b>WFO MTR</b>	June 20-21, 2006	David Soroka (WCM)	Jae Lee (OPS24) Herb White (OS51)
<b>WFO STO</b>	June 20-21, 2006	Kathy Hoxsie (WCM)	Bert Vioria (OPS24) Art Kraus (OS51)
<b>WFO AFC</b>	July 6-7, 2006	Sam Albanese (WCM)	Bert Vioria (OPS24) Herb White (OS51)

## 2.2 Test Schedule

The OAT testing started from June 5, 2006 through July 21, 2006. The OAT Wrap-Up Meeting was held July 26, 2006. For a detailed calendar of activities for the OAT, see Attachment H.

## 2.3 OAT Testing at WFO Pittsburgh, PA (PBZ)

The OAT testing started at WFO PBZ on June 5, 2006. During the kickoff meeting, the WSH test team (see Table 9) was introduced and the testing guidelines, resources, schedule, and test activities planned for the week were relayed to the OAT site personnel. Additionally, the OAT test team verified that the current system of disseminating non-weather alerts was via a phone call or fax from the emergency manager. The caller or alert sender is then verified as an authentic sender and the message is manually entered using the Graphical Headline Generator (GHG) system and the message is disseminated through AWIPS accordingly. The civilian 'CIV' Specific Area Message Encoder (SAME) codes located in the *SAME\_event\_codes.dat* file were also successfully verified.

On the first day of testing, June 5<sup>th</sup>, the HazCollect **Test Mode** messages were created by Richard Kane (WFO PBZ WCM), and correctly NOT disseminated for DMIS **Exercise and System status modes**. For DMIS **Test status mode**, the test ADR message was properly disseminated to WFO PBZ. The **Active/Actual** NWEMs were properly disseminated including testing for CIV SAME character strings, and overlapping areas (Lawrence, Beaver, Allegheny, and Westmoreland counties). For these messages, Odon Dario (CIO14) confirmed message receipt at the NWSTG. Santos Rodriguez (CIO11) confirmed receipt of the messages at the Emergency Manager Weather Information Network (EMWIN).

On the same day, the failover tests were performed. First, the test ADR failover message was successfully verified using an **Active/Actual HazCollect mode** and **DMIS status type** configuration with the application (App) Server 2 shutdown on Primary Rack #1 (Silver Spring, MD). The message was correctly sent via App Server 1 and was disseminated without problems. The test message was also verified at the NWSTG by Odon Dario (CIO14).

Subsequent failover testing included both Rack #1 App servers were shutdown and an ADR message was sent. This time, the DMIS software was no longer 'in sync' as the DMIS client failed to respond. Battelle responded that a recompilation is needed for DMIS software to fix the problem. With only the backup Rack #2 (Stafford, VA) operational, test ADR messages were sent and were successfully verified as disseminated. However, these messages were NOT sent to the NWSTG.

With only Rack #2 operational and with the MCI circuits unplugged, test ADR message was sent successfully to WFO PBZ, but not to the NWSTG. Additionally, the message that was sent contained incorrect message fragments. Another test message was sent and this time, no message fragments were displayed. Due to the ongoing DMIS recompilation, the test was temporarily suspended until the next day to allow Battelle to finish the recompilation.

On June 6<sup>th</sup>, upon notification from Battelle of a ready HazCollect system, David Johnson (Allegheny County Emergency Services) started with successful testing of the **HazCollect Training mode** and NOT disseminating any test message. Subsequent **Active/Actual** test ADR messages were successfully disseminated for Allegheny County, including testing for message corrections and updates. There was a data corruption problem found (see **TTR #8 – Attachment C**) when two test ADR messages were sent at the same time. This test caused both messages to have the WMO header lines identical for the first two lines. Subsequently, the expiration date time was incorrect, and the message contained wrong information and one of the message did

NOT have a 'RRA' in the header to force uniqueness. A **NATIONAL** message was also sent and all 54 state messages were successfully accounted for on the NWSTG, but there were missing NOAA Weather Wire Service (NWWS) files for District of Columbia (DC) and Virgin Islands (VI).

On June 7<sup>th</sup>, a new version of the DMIS client was made available for update. Jae Lee (OPS24) proceeded to update her version of the client on the test laptop to Version 2.3.2. Bert Vioria (OPS24) purposely retained the previous version (2.3.1) to test both versions. On the same day, due to the numerous calls from the State EMA, EAS, and local media regarding the test messages that are being broadcasted, Dave Johnson did not create the planned daily test ADR messages until further discussion by OPS24, Herb White (OS51) and Rich Kane.

On June 7<sup>th</sup>, AWIPS switchover testing was successful using state ADR messages. A NATIONAL message was successfully sent and verified at the NWSTG, but there were still missing NWWS files from DC and VI. The failover testing for 'between' Rack #1 and Rack #2 were successfully retested, including failback from the failover over to the previous normal configuration. Additionally, the messages are now being confirmed at the NWSTG during the failover testing.

The TRG meeting was convened on June 7, 2006. There were **10** new open TTRs that were found (TTRs 2, 3, 4, 5, 7, 8, 9, 10, 11, 12 – see **Attachment C**). During the meeting, Joseph Palko (WFO PBZ ITO) commented that during the OAT testing at WFO PBZ, there were numerous calls from the EAS and State EMA agencies asking how long and how much more testing will be conducted. Joseph Palko and Richard Kane responded to their questions and to other calls involving dissemination of test messages through the local media. One of the callers was from a TV station indicating that they were unaware of the test and so WFO PBZ forwarded them the public information message. One of the callers requested that all messages be WXR so "commlabs" repackages their messages and changes the CIV code that was sent out to be WXR. According to Joe, this might or might not be unique to PA.

Joseph Palko also mentioned that National test messages (which would send statewide messages) have a UGC of XXC000 (where XX is the state abbreviation). The OAT test team determined that XXC000 was not properly setup in the CRS database and this information should be made available for the other OAT sites so they can update their CRS database.

#### **2.4 OAT Testing at WFO Paducah, KY (PAH)**

The OAT testing started at WFO PAH on June 13, 2006. The emergency managers, Walt Atherton and Richard Payne arrived at the Paducah office and were briefed, by the OAT test team, regarding the HazCollect system. Later, the EMs were trained on how to create and post NWEMs, including allowing them to perform these operations themselves.

Ernie Mitchell, a reporter from WPSD-TV Channel 6, the local NBC affiliate in Paducah, came to the office Tuesday morning with a cameraman to document the HazCollect testing. They filmed creation of an NWEM by Walter and how the message was red-bannered on AWIPS. They briefly interviewed Art Kraus (OS51) about HazCollect, how the system would be used by local Emergency Managers, and how it would help the citizens in and around Paducah.

On the first day of testing, June 13<sup>th</sup>, an Active/Exercise mode test successfully disseminated a test ADR message. Subsequently, Art Kraus provided a demo using the Active/Test mode. The message was created and was correctly prompted as 'not disseminated'. Walt Atherton created and posted two ADR messages: one in Active/Test mode which was correctly not disseminated; and, the other in Active/Actual mode which resulted in a successful dissemination to WFO PAH and subsequent broadcast over CRS. A NATIONAL message was also successfully created and posted. Per the national message, Odon Dario verified all 54 files at the NWSTG, but NWWS was missing DC, VI and Washington state (WA).

On June 14<sup>th</sup>, Walter Atherton successfully sent a test ADR message from his office in Daviess County, KY. Ricky Shanklin (WFO PAH WCM) successfully created and posted three test ADR messages with multiple destinations (one message disseminated to a county in Indiana, INDADRIN, and another in Kentucky, INDADRKY; another message was disseminated to a county in Illinois, CHIADRIL, and the other to Missouri, CHIADRMO; and the last message was disseminated to a county in Indiana, INDADRIN, and the other to Missouri, STLADRMO).

The TRG meeting was convened on June 14, 2006. There were **three** new open TTRs that were found (TTRs 13, 14, 15 – see **Attachment C**). At the meeting, Rick Shanklin reported there were many media inquiries. All of the inquiries were of a positive nature. There has been no negative related feedback as of June 14. As of late morning on Wednesday, June 14, the following media outreach and inquiries have been made regarding HazCollect testing at WFO PAH:

- WEHT TV 25 Evansville - Coordinated with their management to help inform the public of the impacts the OAT would have on the populace (the majority of which now have a weather radio receiver in the Evansville area). WEHT provided numerous broadcasts of the OAT as well have run a continuous crawler on their web site since about 6/9/06 regarding the HazCollect test.
- WIKY Evansville, IN - interview (with Rick Shanklin) regarding what HazCollect is and how it will benefit the general populace.
- WSON Radio Henderson, KY - questions regarding our HazCollect testing and what type of EAS code will be generated on their EAS Endec unit.
- Paducah Sun - interview (with Rick Shanklin) regarding interest generated from PNS and emails to media. The story was an overview on HazCollect.
- WPSD TV 6 Paducah, KY - performed on-site coverage and interview (with Art Kraus, OS51) on overview of HazCollect and how it will benefit everyone.
- WBNL Boonville, IN - questions regarding our HazCollect testing and what type of EAS code is generated on their EAS Endec unit.
- WKYQ Paducah, KY - interview (with Rick Shanklin) regarding what HazCollect is and how it will benefit the general populace.

## 2.5 OAT Testing at WFO San Francisco, CA (MTR)

The OAT testing started at WFO MTR on June 20, 2006. The WFO MTR testing was performed at the same time as the OAT at WFO Sacramento, CA (STO). The OAT test team met Dave Reynolds (MIC), Dave Soroka (WCM), and Wayne Bailey (ESA). At the kickoff meeting, Jae Lee explained the test regimen and schedule. The group discussed the DMIS client, DMIS and HazCollect architecture, the California new Emergency Digital Information Service (EDIS) and CAPCON-NWS (CAP Controller for NWS, and DHS's OPEN network concept).

Tomer Petel and Thai Van, software engineers from Hormann America, Inc., arrived shortly after beginning the kickoff meeting. Hormann America is a contractor working with the state of California Office of Emergency Services on the EDIS and CAPCON product that can be customized for different applications and also working with the integration of the warning systems used by Contra Costa County Community Warning Service. The OAT team gave a brief overview of the DMIS NWEM entry screens before Dave prepared the first local test message.

Preparation and transmission of local and national test messages at WFO MTR from the NWS TEST WFO MTR COG and the NWS TEST HQ NATIONAL COG, respectively, went smoothly. Wayne and Dave commented the DMIS NWEM Tool was not intuitive, requiring unnatural button selections to complete some of the tasks. They expressed the need to have the CAP description field pre-populated for expected events if desired.

There was one moment of confusion when an unexpected AWIPS D2D alert was displayed a few minutes after the national HazCollect ADR test message was received. It turned out that the D2D alert was for a totally unrelated test of the current DNMWNO DHS national NWEM distribution method from National Center for Environmental Prediction (NCEP).

On the same day, David Soroka successfully tested the non-dissemination of the Active/Test mode ADR message and the dissemination of the Active/Actual mode ADR message, SFOADRMTR at WFO MTR. The OAT test team also confirmed the message was received on the SAME tone decoder box, DCR450, with the 'CIV' code on the SAME header. A NATIONAL message was also successfully created and posted with all 54 files verified at the NWSTG, but there are still NWS files missing for DC and VI. During the day, test messages that were generated from WFO STO were also received at WFO MTR even though WFO STO was having problems of not receiving their own messages due to erroneous sub-directories created in the NWEM root directory [see **Part II Section 2.6 Testing at WFO Sacramento, CA (STO)**].

Later in the day, Tomer Petel gave a brief overview of California's transition to the new Emergency Digital Information Service (EDIS) and demonstrated the CAPCON user interface used to input CAP messages for distribution through EDIS.

On June 21<sup>st</sup>, the OAT test team successfully tested two marine zones, PZZ530 – San Francisco Bay and PZZ550 – Point Arena to Pigeon Point. Additionally, the OAT test team performed the OST-requested tests with varying results. See Attachment E for the actual results for these OST-requested tests.

The TRG meeting was convened on June 21, 2006. There were **13** new open TTRs that were found (TTRs #16-30, see **Attachment C**). At the meeting, Craig Schmidt (WR1) discussed the clarification with regards to the definition of the current Priority 1, 2, and 3 items on the TTR list. He explained that these priorities must be clear. OPS24 previously defined Priority 1 TTRs as critical failures and would mean a suspension of the OAT testing. Craig Schmidt added that the TRG should regard Priority 2 TTRs to mean that they are expected to be fixed before the IOC, or initial implementation of HazCollect, and Priority 3 TTRs to mean that they are expected to be fixed after initial deployment. The TRG agreed to the new Priority designations.

Craig Schmidt also added his concerns regarding DMIS user interface issues (see TTR #27 Attachment C) which were documented between him and Art Botterell (WFO STO EM) during the OAT testing at WFO STO. Additionally, Craig Schmidt's interface concerns were supported by Walt Atherton, who is the EM partner in Daviess County, KY. Walt Atherton's concurrence was an important statement and helps show that it's not just one customer or region that is concerned about these interface issues.

## **2.6 OAT Testing at WFO Sacramento, CA (STO)**

The OAT testing started at WFO STO on June 20, 2006. The WFO STO testing was performed at the same time as the OAT testing at WFO MTR. The OAT test team met Craig Schmidt (WR1), Kathy Hoxsie (WFO STO WCM) and Art Botterell (WFO STO EM). At the kickoff meeting, the test team verified that the current method of disseminating NWEMs is based on receipt of NWEM messages via the EDIS terminal. These messages are directly recorded in CRS using the emergency override screen. For Child Abduction Event (CAE) messages, a fax message is first received and confirmed from the police department. The CAE message is also received at the EDIS terminal and the same CRS procedure is performed for dissemination. The OAT test team also verified CIV SAME codes (SAME\_event\_codes.dat) file exists in CRS.

On the same day, Art Botterell successfully created and posted (but not disseminated) an Active/Test mode message. However, the next 10 ADR Active/Actual messages generated by Art and the OAT test team were created and posted via HazCollect but were NOT being sent to CRS and subsequently were not broadcasted at WFO STO. However, these same ADR messages were properly broadcasted at WFO MTR. After unsuccessful attempts by OAT test team and WFO STO office personnel to diagnose the problem, MarySue Schultz (GSD) was contacted for support.

On June 21<sup>st</sup>, MarySue Schultz discovered that there should NOT be sub-directories under the /home/crs/NWEM directory in AWIPS. The backup sub-directories were created by the WFO STO ITO after attempts to download the latest versions of the NWEM formatter (from p to v). After the backup sub-directories were removed, the OAT test team successfully created and posted an NWEM message with split (shared) counties with Sacramento, CA and Reno, NV. There is no transmitter overlap because of the Sierra Nevada range (i.e., neither WFO STO nor WFO Reno, NV offices broadcast messages from the other because the signals don't reach across the mountains). However, TTR #30 was generated for possible issues with split (shared) counties. Additionally, a state message was successfully created and posted and properly disseminated at WFO STO.

As already described in Section 2.5, the TRG meeting was convened on June 21, 2006. In addition to Craig Schmidt's comments, Peter Pickard (OST32) indicated he will make appropriate changes to the AWIPS/CRS notes which will be sent to the regional focal points for dissemination. Mike Moss (OPS21) will also update the discovery scripts to include verification of the NWEM formatter version for each enabled site.

## **2.7 OAT Testing at WFO Anchorage, AK (AFC)**

The OAT testing started at WFO AFC on July 6, 2006. The OAT test team met Sam Albanese (WCM), and Dave Cole (Asst ESA and CRS Focal Point). At the kickoff meeting, the OAT test team went over the OAT test schedule and regimen. Dave Cole verified the SAME\_event\_codes.dat file existed in CRS. Additionally, WFO AFC explained the current procedure for disseminating NWEMs include receipt of alerts via telephone. These messages are then directly relayed to the appropriate weather radio stations without using text messages.

At the kickoff meeting, Sam Albanese explained the relay of statewide NWEMs is done by the WFO AFC upon request from the U.S. Department of Homeland Security or Alaska Division of Homeland Security and Emergency Management, both at Fort Richardson Alaska. Sam requested the OAT team to not use the ADR SAME/EAS event code because the Alaska State Emergency Communications Committee (SECC) uses the ADR event code as a Tsunami Warning cancellation message. Any use of the ADR on NWR would be automatically relayed by all EAS stations, interrupting normal broadcasts. Sam coordinated EAS issues in a couple of phone calls with Dennis Bookey (SECC chair). Sam confirmed with Dennis there were no communication or dissemination services in Alaska that activate EAS from text messages and said there should be no consequences if the NWS sends ADRAFC and ADRAK text messages. As a result of the above EAS discussions and understandings, it was decided to put CRS in maintenance mode each time an ADR test message was transmitted through HazCollect to prevent on-air broadcast. Message transmission could still be verified through AWIPS browser and CRS. During the testing, Dave Cole changed the status of and monitored CRS. Kathleen Cole (Ice Forecaster) monitored AWIPS and provided hard copies of each of the test messages.

Bonnie Hanson, assistant to the Kenai Borough Emergency Manager, successfully completed and posted two test messages (one not disseminated and the other disseminated to WFO AFC) from her office in Soldotna, AK. The remainder of the ADR test messages were prepared and posted by Sam Albanese from Bert Vilorio's (OPS24) test laptop at the WFO AFC. Sam Albanese successfully created and posted test ADR messages for a marine zone (Cook Inlet North of Kamishak Bay & English Bay) and to a land zone separately. A National test message was also successfully sent and verified receipt of 53 files (no state messages at PA) at the NWSTG, but there are now 29 missing NWWS files. Requirement #201 was tested and resulted in a failure due to an acknowledgement time of beyond the required 10 seconds. Requirement #202 was tested and resulted into an authentication failure by logging in and out of valid HazCollect COGs and not having the 'New NWEM' button on the DMIS client toolbar.

On July 7<sup>th</sup>, testing was resumed and the OAT test team verified a successful creation and post for broadcast of an NWEM with a marine zone (Cape Sarichef to Nikoski) and a land zone (Eastern Aleutian) from a message from HazCollect. Furthermore, the marine zone correctly contained the 'RRA' in the first line of the WMO header to denote uniqueness from the land zone.

The TRG meeting was convened on July 7, 2006. There were 7 new open TTRs that were found (TTRs #29-36, see **Attachment C**). At the meeting, Richard Kane commented that the AKDT time zone and the 'HQ National' text in the last National message were not pronounced properly. Herb White (OS51) recommended that the time zones be added to our Voice Improvement Processor (VIP) dictionaries so they are pronounced properly all the time. Joel Nathan (OPS23) recommended that a list of words planned for addition to the VIP dictionaries be listed in a formal mod note.

During the meeting, the TRG was told of the decision by the Pennsylvania Emergency Management Agency (PEMA) in Harrisburg, PA, on June 30<sup>th</sup>, that the testing of ADR messages resulting in EAS activation must be terminated per a 'State of Emergency' within PA due to flooding. Subsequently, all NATIONAL message testing by the OAT test team and daily test ADR messages by David Johnson will be terminated.

Richard Kane commented that he is still working with the state EAS officials as to when testing of ADR message is resumed for state of Pennsylvania (PA). Richard also added that David Johnson has indicated that he is still interested in participating with the generation of daily test ADR messages. Richard will inform the OAT test team as to when confirmation from the PA state EAS as far as resuming ADR message testing.

## **2.8 OAT Testing at WSH (after on-site testing)**

After performing on-site testing, OPS24 verified the emergency manager daily test messages, issued two more weekly NATIONAL test messages (July 11 and 18), held TRG meetings, and performed additional testing to verify HazCollect/DMIS functionalities.

On July 10<sup>th</sup>, it was reported from WFO PAH EMWIN messages had long strings of text without carriage return linefeed characters. Further discussions with Robert Wagner (CIO11) verified the inconsistent occurrence of these message format issues. Some of messages were correct in format, but some did not have the requisite end-of-line characters.

On July 11<sup>th</sup> at around 2:50 PM EDT, Bert Vioria (OPS24) successfully created and posted a test NATIONAL message. There was some cleanup performed on the HazCollect server before the actual NATIONAL message was sent out. The message was verified at WFO MTR. There were 52 messages (2 less state messages for Pittsburgh and Alaska) verified at the TG, and 23 missing NWWS files.

Further investigation by OPS24 of the HazCollect servers and existing PAMS logs revealed the HazCollect application servers at Silver Spring, MD were properly sending the test messages to the NWSTG. However, the HazCollect application server at the backup site at Stafford, VA was sending the test NWEM messages to backup NCF (BNCF). These messages were being sent to the BNCF starting the end of the month of June. Previously, test messages, from the start of the OAT (June 5) until the end of the month of June, were properly being sent to the HazCollect application servers at Silver Spring, MD. Battelle discovered the NetIQ monitoring software listed connection problems with the HazCollect server at Silver Spring, MD and with the ANCF server causing the messages to failover to the Stafford server. These messages are then routed to the BNCF. This connection problem was due to HazCollect processes that were not operational

at the active NCF (ANCF). Once the processes were restarted, the normal processing was re-established.

A TRG meeting was convened on July 12<sup>th</sup>. There were **two** new open TTRs found (TTRs #37-38, see **Attachment C**).

On July 14<sup>th</sup>, Walter Atherton (WFO PAH EM), Art Botterell (WFO STO EM), Bert Vioria (OPS24), and Jae Lee (OPS24) participated in the DMIS surge test. The DMIS surge test was meant to exercise the DMIS system under stress conditions. Test messages by Walt, Bert, and Jae were created and successfully posted. All participants reported that the DMIS client user interface was slow in response. Both Jae and Bert reported the DMIS client software displayed DMIS connection problems. Art Botterell experienced slow client software response and area selection problems resulting in his inability to successfully create and post his test message.

On July 17<sup>th</sup>, the OPS24 test team successfully tested the remaining HazCollect server mode/DMIS status value combinations using the ADR product. All of the messages used during the mode test were correctly NOT disseminated to the OAT sites.

On July 18<sup>th</sup> at 2:00 PM, Bert Vioria successfully created and posted a NATIONAL message. This national message did not include the Alaska, Pennsylvania (per states' instructions), and Kentucky (due to planned tests using KY later that night). There were 51 messages (3 less state messages for AK, PA, and KY) verified at the NWSTG and only 48 files were received at the NWWS (missing DC, VI, and NM). Another NATIONAL message posted on July 19<sup>th</sup> and a missing NWWS file in Delaware (DE) was verified. Jae Lee (OPS24) then proceeded to work with Odon Dario (CIO14), Walter Mussante (CIO13), and Dan Lam (CSC) to determine the cause of the missing NWWS files. After verifying test data, the test team determined the missing NWWS files occurrence is inconsistent as to why some files are missing and which NWWS files will be missing for the next test.

Mike Moss explained that all of these missing NWWS files from the NCF are not exactly an issue. He added that *"...sometimes there's a glitch in uplinking products. That's why there's redundancy built into the system. In the final configuration, site PHI (Mount Holly) would have also sent the product to their NWWS uplink sites (three sites because it has a warning ID) and things likely would have been OK. PHI does NOT have HazCollect activated..."* The TRG concurred with Mike's assessment and the trouble ticket (TTR #15 – see **Attachment C**) was closed.

On July 19, 2006, the DMIS failover test and recovery functionality was verified. Bert Vioria (OPS24) successfully tested the DMIS failover capability by verifying a test ADR message, sent using the HazCollect server active mode, DMIS Test status, to the server. The message was correctly NOT disseminated to the OAT sites. A DMIS client VPN configuration file (VPNConfig.xml) was provided by Neil Bourgeois (Battelle), which sends the test message to the backup DMIS server at Ashburn, VA. The message was verified using the Message Queue utility in the HazCollect Server Administrator web site. After the test, the VPN config file was reset to its previous configuration.

A TRG meeting was convened on July 19<sup>th</sup>. There was **one** open TTR that was found (TTR #39 - see **Attachment C**). At the meeting, it was discussed that David Johnson (Allegheny County

PA EM) was allowed, by the PEMA, to start creating test NWEM messages starting July 17. David only had two days (July 17 & July 18) to perform the test due to scheduled activities. Unfortunately, he was unable to send his daily test messages, on both days, due to problems with his DMIS client software. The DMIS client software was not allowing him to create a new NWEM ('Add Row'). He contacted the DMIS help desk but he did not receive prompt responses (TTR #39).

At the TRG meeting, Timothy Howard (OST33) informed the TRG he concluded his required Certification & Accreditation (C&A) testing at the Battelle facility at Stafford, VA including verification of the contingency plans and incident response reporting. He added that he will be performing a system scan after the OAT. Based on his initial findings, he added that there were no problems and no issues during his testing and his interim prognosis of the HazCollect C&A testing is 'so far so good.'

The OAT officially ended on July 21, 2006. At the OAT Wrap-Up meeting, which was held on July 26, 2006, OPS24 presented three main issues:

- OAT Summary

Bert Vioria (OPS24) proceeded to discuss the summary of OAT testing, including all of the testing performed at the sites, the emergency manager (EM) daily test messages, the failover testing, and other requested tests by OST. The summary indicated a tally of test messages for each of the test activities, including the aggregate total of 114 test messages. Additionally, the EM daily test message dissemination times were charted and the average dissemination time from HazCollect server to CRS averaged under the 2-minute requirement.

Peter Pickard, who is in charge of the HazCollect Tiger Team, commented that there are currently 27 enabled sites for HazCollect. He also added that the AWIPS Application Installation instructions Note 17 was sent out for review last July 25, 2006.

- Pre-OAT Issues

Steve Schofield (OST11) presented a draft waivers list for requirements that were not tested during the DT&E and the OAT. Additional requirements were recommended to be added to the waivers list including Requirement #208 as this was not tested during the OAT (see Attachment E) and the Spanish requirement. After Steve Schofield added the recommended updates to the waivers list, OPS24 disseminated the list to the TRG.

Jon Adkins (HazCollect Project Engineer) added that, while "the single ADR update automatic pass-through" fix will exist in AWIPS OB7.2 maintenance build, this feature will still need to be discussed (OSIP) as it will involve a CONOPS change.

The "Catastrophic Power" failure scenario was not tested and was agreed to be a closed issue. Both the "adjacent marine zones" improper coding problem and the "AWPS ID mismatch" problems will be relayed to Battelle for fixes. The TRG agreed the "AWPS ID mismatch" must be fixed before initial deployment.

- OAT Issues  
Bert Vioria (OPS24) proceeded to discuss the totals for all HazCollect TTRs and DMIS trouble tickets opened during the OAT. Of importance was the total of Priority 2 (must be fixed before initial deployment) TTRs which total 12. The list of all OPEN Priority 2 TTR list was provided to the TRG members with the latest status from Battelle.

## Attachment A – HazCollect Test Review Group (TRG)

Name/Organization * = Alternate		Function	Phone	Pre-TRG IWT	Voting Member
Jerald Dinges	OPS24	TRG Chair	301-713-0326 x160		Yes
Bert Vilorio	OPS24	OAT Test Director	301-713-0326 x131 FAX: 301-713-0912	Yes	
Jae Lee	OPS24	OAT Support	301-713-0326 x158	Yes	
Steven Schofield	OST11	HazCollect Program Manager	301-713-3391 x139	Yes	Yes
Timothy Hopkins	OST31	OST31 Branch Chief	301-713-1570 x129	Yes	
Jon Adkins	OST31	HazCollect Technical Lead	301-713-0304 x111	Yes	Yes
Joel Nathan	OPS23	CRS/CAFÉ Formatter Software Manager	301-713-0191 x119		Yes
Herb White	OS51	Dissemination Services Manager	301-713-0090 x146	Yes	Yes
Arthur Kraus	OS51	Dissemination Services Support	301-713-0090 x161	Yes	
Gregory Zwicker	OPS17	Dissemination Systems	301-713-9478 x141		Yes
Iyad Salman	OPS12	HazCollect Integrated Logistics Support Lead	301-713-1833 x135	Yes	Yes
Daniel Starosta	CIO12	NWSTG POC	301-713-0864 x171		Yes
Ronald Jones	CIO	NWSTG/Internet Services POC	301-713-1381 x130		
Santos Rodriguez	CIO11	NWSTG/EMWIN POC	301-713-0077		
Ross Dickman Rick Watling *	ER1	Eastern Region HazCollect POC	631-244-0104 631-244-0123		Yes
Walt Zaleski Mike Mach *	SR11	Southern Region HazCollect POC	817-978-1100 x106 817-978-1100 x108		Yes
Greg Noonan Jim Keeney *	CR1	Central Region HazCollect POC	816-891-7734 x301 816-891-7734 x702		Yes
Craig Schmidt Jeff Lorens *	WR1	Western Region HazCollect POC	801-524-4000 x266 801-524-4000 x265		Yes
Freddy Peters	AR4	Alaska Region HazCollect POC	907-271-5145		Yes
Joel Cline Ken Waters *	PR	Pacific Region HazCollect POC	808-532-6414 808-532-6413		Yes
Richard Kane (WCM)	WFO PBZ	OAT Site POC/AWIPS POC	412-262-2170		
Rick Shanklin (WCM)	WFO PAH	OAT Site POC/AWIPS POC	270-744-6440 x726		
David Soroka (WCM)	WFO MTR	OAT Site POC/AWIPS POC	831-656-1710		
Kathryn Hoxsie (WCM)	WFO STO	OAT Site POC/AWIPS POC	916-979-3041		
Sam Albanese (WCM)	WFO AFC	OAT Site POCs/AWIPS POCs	907-266-5117		

Name/Organization * = Alternate		Function	Phone	Pre-TRG IWT	Voting Member
Walter Atherton Richard Payne Chuck Genesio Alan Ninness	EM	Emergency Managers	270-685-8448 270-685-8448 618-542-2009 618-252-3732		
Art Botterell	EM	Emergency Manager	925-646-4461		
Scott Walden	EM	Emergency Manager	907-262-2097		
Bernard Schmidt	Battelle	Project Manager	540-288-5586	Yes	

## Attachment B – HazCollect Test Team

Name/Organization		Function	Phone
Bert Vilorio	OPS24	OAT Test Director	301-713-0326 x131 FAX: 301-713-0912
Jae Lee	OPS24	OAT Support	301-713-0326 x158
Khien Nguyen	OPS24	PAMS Support	301-713-0326 x177
Herb White	OS51	Dissemination Services Manager	301-713-0090 x146
Arthur Kraus	OS51	Dissemination Services Support	301-713-0090 x161
Pete Pickard	OST32	HazCollect Tiger Team Lead	301-713-1570 x126
Randy Chambers & NCF	CIO11	NCF Support	301-713-0864 x161
Robert Wagner	CIO11	EMWIN Support	301-713-0864 x109
Odon Dario	CIO14	NWSTG Support	301-713-0510 x172
Walter Mussante	CIO13	NWSTG Support	301-713-0877 x145
Wayne Martin Mike Moss	SST	AWIPS Support	301-713-1724 x166 301-713-1724 x168
Craig Schmidt	WR1	Western Region HazCollect POC	801-524-4000 x266
Richard Kane Joseph Palko	WFO PBZ	OAT Site POC/AWIPS POC	412-262-2170
Rick Shanklin (WCM)	WFO PAH	OAT Site POC/AWIPS POC	270-744-6440 x726
David Soroka (WCM)	WFO MTR	OAT Site POC/AWIPS POC	831-656-1710
Kathryn Hoxsie (WCM)	WFO STO	OAT Site POC/AWIPS POC	916-979-3041
Sam Albanese (WCM)	WFO AFC	OAT Site POC/AWIPS POC	907-266-5117
David Johnson	Allegheny County, PA	Emergency Manager	703-706-3940 x283
Walter Atherton Richard Payne	Daviess County, KY	Emergency Managers	270-685-8448 618-542-2009
Art Botterell	Contra Costa, CA	Emergency Manager	925-646-4461
Scott Walden Bonnie Hanson	Kenai Borough, AK	Emergency Manager	907-262-2097
Dan Lam	CSC	NWWS Support	(703) 818-4892
Bernard Schmidt Lee DeLapp	Battelle	Project Manager HazCollect Support	540-288-5586 540-288-5686
MarySue Schultz	GSD	AWIPS Support	303-497-6499

## Attachment C – HazCollect OAT Test Trouble Reports

Date Found	Number	Summary	Priority	Impact	Status
06/05/06	2	A duplicate line displayed for a WMO formatted message in the queue	3 - Include in the next build after deployment	5 - Minimal to no impact; nice to have	Submit, assigned to Schmidt, Bernard
06/05/06	3	DMIS client hung with App server 1 and App server 2 down	1 - Need immediate fix	1 - Malfunction of required functionality; no workaround	Closed
06/05/06	4	Erroneous characters at the end of a message on AWIPS text db	4 - Undetermined	4 - Watch Item	Closed
06/05/06	5	Could not transmit to the TG using Rack 2 at Battelle	1 - Need immediate fix	1 - Malfunction of required functionality; no workaround	Closed
06/06/06	7	No restriction in the types of NWEMs that can be issued by an EM	2 - Include in the next build before initial deployment	5 - Minimal to no impact; nice to have	Submit, assigned to Schofield, Steven
06/06/06	8	An incorrect message was broadcasting on CRS when two ADRs were transmitted at the same time	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schmidt, Bernard; Schofield, Steven
06/06/06	9	Cannot modify the headline field of the message during a Correction	2 - Include in the next build before initial deployment	3 - Routine deficiency - loss of minimum capability	Submit, assigned to Schofield, Steven
06/06/06	10	Update and Correction limitations	2 - Include in the next build before initial deployment	3 - Routine deficiency - loss of minimum capability	Submit, assigned to Schofield, Steven
06/06/06	11	Received a red banner on AWIPS 2 min 30 sec after posting a National message	4 - Undetermined	4 - Watch Item	Closed
06/07/06	12	Message sent to other COGs was not received	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schmidt, Bernard
06/13/06	13	Guam and New Orleans state message concerns during a National message test	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schmidt, Bernard
06/13/06	14	INDADRIN was received twice on AWIPS	4 - Undetermined	4 - Watch Item	Closed
06/13/06	15	Missing state products from NWS for a National message	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Closed
06/17/06	16	compliance with the CAP 1.1 standard	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
06/21/06	17	HazCollect does not utilize partial county codes	3 - Include in the next build after deployment	3 - Routine deficiency - loss of minimum capability	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert

Date Found	Number	Summary	Priority	Impact	Status
06/21/06	19	HazCollect must be able to ingest a CAP message from other EM systems	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
06/21/06	20	Spanish output needed beyond San Juan	3 - Include in the next build after deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
06/21/06	21	DMIS Username/password difficulty	3 - Include in the next build after deployment	5 - Minimal to no impact; nice to have	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
06/21/06	22	DMIS password changing difficulty	3 - Include in the next build after deployment	3 - Routine deficiency - loss of minimum capability	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
06/21/06	23	ADRCAs not properly sent to CRS	2 - Include in the next build before initial deployment	4 - Watch Item	Closed
06/21/06	24	Invalid Name of COG in MND header	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Closed
06/21/06	27	HazCollect Interface Issues	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Submit, assigned to Schmidt, Bernard
06/21/06	28	AWIPS/CRS setup issues at WFO STO	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Closed
06/21/06	29	NWEM formatter version	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Closed
06/21/06	30	Split County Issue	4 - Undetermined	5 - Minimal to no impact; nice to have	Submit, assigned to Adkins, Jon; Schmidt, Bernard; White, Herbert
06/21/06	31	"Dissemination within 10 seconds" requirement did not meet	3 - Include in the next build after deployment	3 - Routine deficiency - loss of minimum capability	Submit, assigned to Schmidt, Bernard
06/29/06	33	Missing 'New NWEM' from DMIS toolbar, File menu	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Closed
07/06/06	34	DMIS client time zone for Alaska did not have AK9ADT	2 - Include in the next build before initial deployment	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schmidt, Bernard; Schofield, Steven

Date Found	Number	Summary	Priority	Impact	Status
07/06/06	35	Individual state not selected when all areas are selected from area pick list.	3 - Include in the next build after deployment	5 - Minimal to no impact; nice to have	Submit, assigned to Schmidt, Bernard
07/06/06	36	Logout command from DMIS client misleading	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Submit, assigned to Schmidt, Bernard
07/07/06	37	Include time zone value in the VIP dictionaries	3 - Include in the next build after deployment	3 - Routine deficiency - loss of minimum capability	Closed
07/12/06	38	Connection problem with HazCollect server & ANCF	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Closed
07/19/06	39	DMIS Help Desk Issues	2 - Include in the next build before initial deployment	2 - Malfunction of required functionality; reasonable workaround	Submit, assigned to Schmidt, Bernard; Schofield, Steven
07/20/06	40	No dissemination to American Samoa for National messages	4 - Undetermined	1 - Malfunction of required functionality; no workaround	Submit, assigned to Adkins, Jon; Schofield, Steven; White, Herbert
07/24/06	41	Intermittent problem of the 2 seconds feedback" requirement	4 - Undetermined	3 - Routine deficiency - loss of minimum capability	Submit, not assigned

## Attachment D – HazCollect Priority 2 TTRs

TTR	Summary	Program Office Status	Target Date
7	No restriction in the types of NWEMs that can be issued by an EM.	System works as designed based on known requirements provided by the NWS at the time of development. Requirements Team must document the change in requirement with Jon Adkins before it is assigned to the Development Team.	As project funds allow
8	An incorrect message was broadcasting on CRS when two ADRs were transmitted at the same time.	Fixing this issue requires re-architecting the HazCollect Application Server application – a major effort that may take many months to complete depending on the final recommend solution. Additional discussion and analysis is required with ALL impacted systems to identify a potential solution to the problem.	TBD
9	Cannot modify the headline field of the message during a Correction.	System works as designed based on known requirements provided by the NWS at the time of development. Requirements Team must document the change in requirement with Jon Adkins before it is assigned to the Development Team.	As project funds allow
10	Update and Correction limitations.	System works as designed based on known requirements provided by the NWS at the time of development. Requirements Team must document the change in requirement with Jon Adkins before it is assigned to the Development Team.	As project funds allow
12	Message sent to other COGs was not received.	This issue is a DMIS defect and is being worked through the DM program. As this appears to be an intermittent problem, additional testing will need to be conducted to isolate the problem. No date has been set for deploying this fix by the DM program.	TBD
13	Guam and New Orleans state message concerns during a National message test.	Requirements team to identify correct business rules from Jon Adkins before assigning to the Development Team. As of 7/26/06 no response has been received from the NWS concerning this issue.  The target date will continue to be slipped until the NWS responds back to Battelle and the requirements are formally documented.	8/11/06

TTR	Summary	Program Office Status	Target Date
16	Compliance with the CAP 1.1 standard.	Requirements Team is documenting the formal requirements in a Use Case. Development Team assigned to fix defect.	8/4/06
19	HazCollect must be able to ingest a CAP message from other EM Systems.	Currently in development and unit testing.	DM program will release OPEN NWEM API to coincide with NWS operational deployment of HazCollect system.
27	HazCollect Interface Issues.	System works as designed based on known requirements provided by the NWS at the time of development. Requirements Team must document the change in requirement with Jon Adkins before it is assigned to the Development Team.	As project funds allow
34	DMIS client time zone for Alaska did not have AK9ADT.	This issue is a DMIS defect and is being worked through the DM program. The DM program was already researching adding a complete set of world-wide time zones in order to accommodate U.S. first responders stations OCONUS. No date has been set for deploying this fix by the DM program.	TBD
36	Logout command from DMIS client misleading.	Development Team assigned to fix defect.	8/4/06
39	DMIS Help Desk Issues.	An investigation by the Battelle Data Center Service Desk organization indicated proper Service Desk procedures were followed and appropriate responses provided by Service Desk staff members in both specific instances identified by OAT TTR 39. No further action will be taken by Battelle to address this issue.	N/A

## Attachment E – HazCollect OAT Test Activities

### E - 1. Tests Performed

- On site ADR message tests (NOTE: Italicized are NOT disseminated) **sub-total: 51**
  - PBZ: 6/5 (1 *Test/Exercise*, 1 *Test/Test*, 2 *Actual*, 1 *Test/System*)  
6/6 (1 *Training/Actual*, 8 *Actual*).  
Tested correction & update OK.  
**Problems with two ADR messages sent simultaneously** (see TTR #8)
  - 6/7 (6 *Actual*)
  
  - PAH: 6/13 (1 *Active/Exercise mode*, 2 *Active/Test*, 2 *Actual*)  
6/14 (4 *Actual*)
  
  - MTR: 6/20 (1 *Active/Test mode*, 3 *Actual mode*),  
6/21 (1 *Actual mode*)
  
  - STO: 6/20 (1 *Active/Test mode*, **10 Actual FAIL**)  
10 failed due to STO having sub-directories in NWEM directory  
6/21 (2 *Actual mode*)
  
  - AFC: 7/6 (1 *Active/Test mode*, 5 *Actual* - test transmitter)  
7/7 (1 *Actual*. This tested the land & marine zones together OK)
  
- National tests: **sub-total: 8**
  - June 6: TG received 54 files OK, NWWS missing DC and VI
  - June 7: TG received 54 files OK, NWWS missing DC and VI
  - June 13: TG received 54 files OK, NWWS missing DC, VI, and WA
  - June 20: TG received 54 files OK, NWWS missing DC and VI
  - June 27: TG received 54 files OK, NWWS missing DC, VI, DE, and MI
  - July 6: TG received 53 files OK (no PA), NWWS missing 29 files
  - July 11: TG received 52 files OK (no PA, AK), NWWS missing 29 files
  - July 18: TG received 51 files OK (no PA, AK, KY), NWWS missing DC, VI, NM
  
- Failover tests (performed at WFO PBZ June 5 & 7, 2006) **sub-total: 7**
  - Within rack – OK (6/5)
  - Between rack – OK (BNCF -> TG failed on 6/5, OK on 6/7)
  - Circuit failover – OK (6/5 tested twice)
  - Failback test – OK
  - AWIPS failover – OK (6/7)
  
- Additional testing **sub-total: 14**
  - DMIS failover: 1*
  - DMIS surge tests: 3*
  - Remaining server/DMIS mode tests: 5*
  - Alert posting tests: 2*
  - NWWS testing: 3
  
- EM Daily test ADR messages: **sub-total: 34**
  - PBZ: 0 temporarily suspended, client problems on resume
  - PAH: 25
  - MTR/STO: 9
  - AFC: 0 Not allowed per Alaska state official instructions

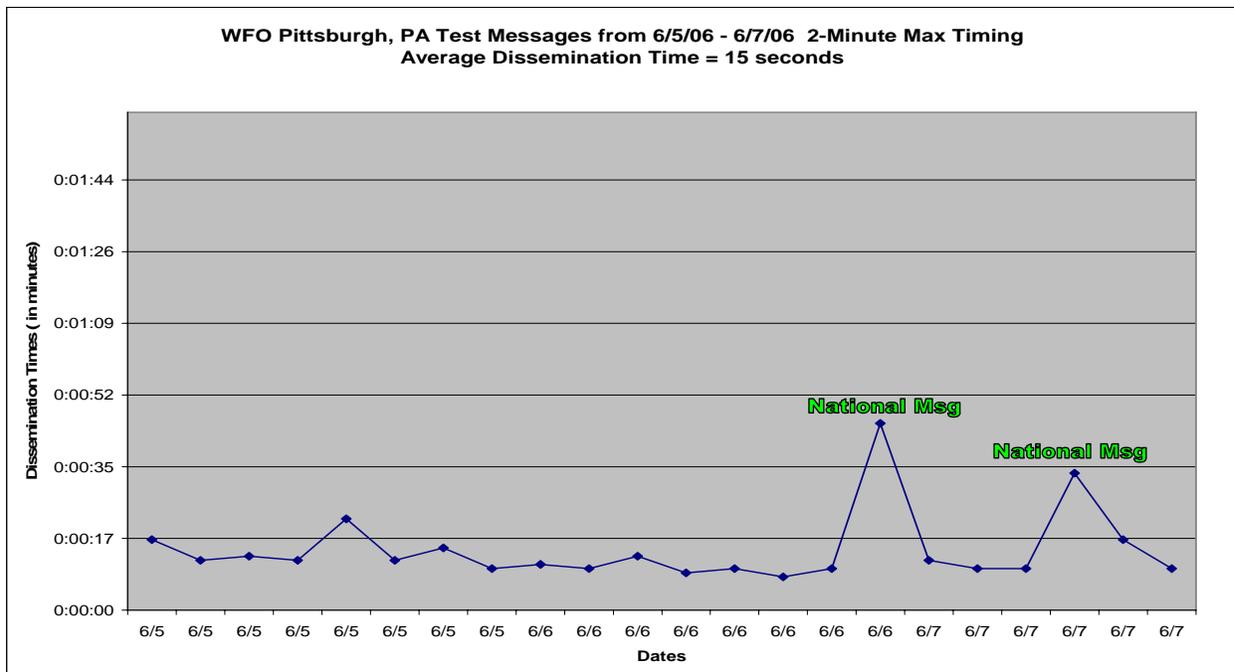
**TOTAL TEST MSGS: 114**

### E - 2. Dissemination Times at OAT Sites with OAT Test Team

Messages transmitted from the OAT test sites and transmitted to CRS were tracked using the HazCollect Server Administration Message Queue utility and the Product Acquisition Monitoring System (PAMS). The Message Queue was used for the start time (received time) and the PAMS was used for the end time (logStreamExpect log).

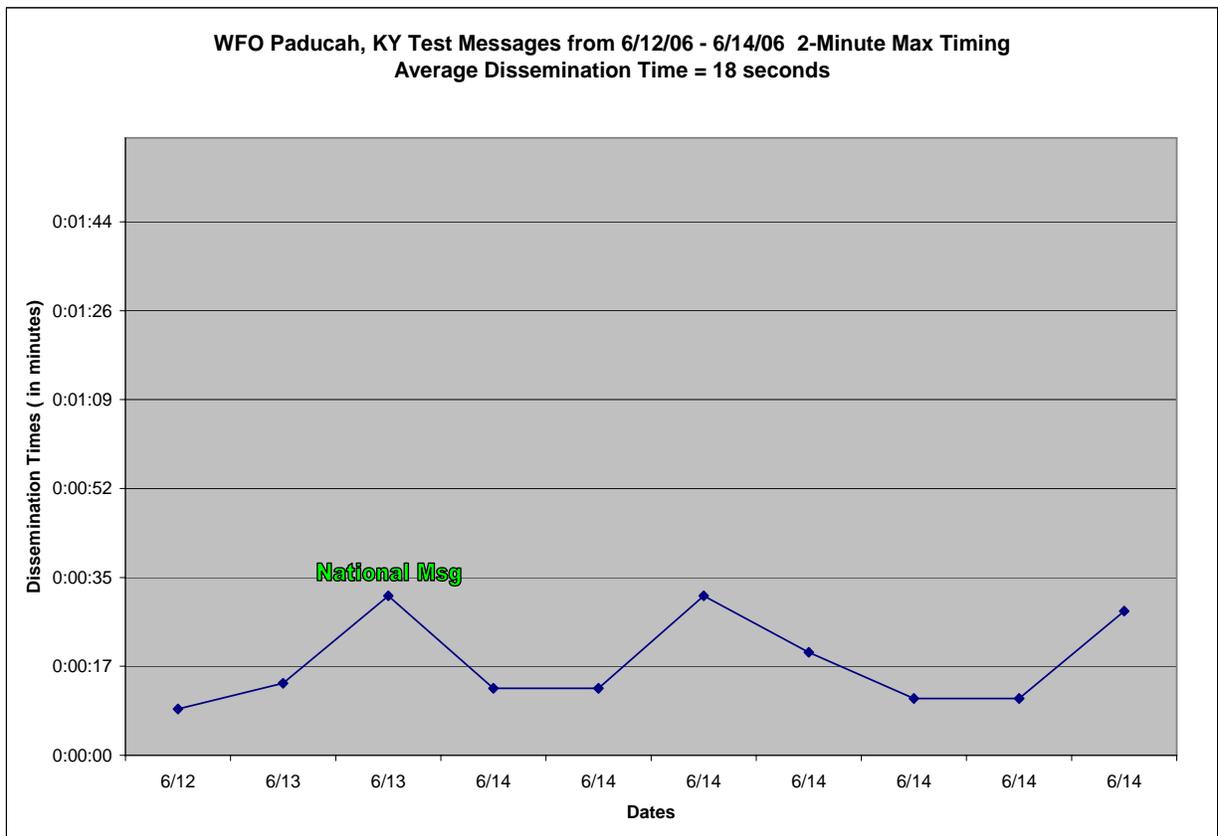
At WFO Pittsburgh, PA, the dissemination time results from 6/5/06 – 6/7/06 are:

Dates	Msg #	From Message Queue	PAMS Log: logStreamExpect	Message Time Delta
6/5	2	10:17:46 AM	10:18:03 AM	0:00:17
6/5	3	10:34:45 AM	10:34:57 AM	0:00:12
6/5	4	11:04:47 AM	11:05:00 AM	0:00:13
6/5	F1	1:15:23 PM	1:15:35 PM	0:00:12
6/5	F3	1:54:43 PM	1:55:05 PM	0:00:22
6/5	F4	2:08:13 PM	2:08:25 PM	0:00:12
6/5	F5	2:23:26 PM	2:23:41 PM	0:00:15
6/5	F6	2:29:33 PM	2:29:43 PM	0:00:10
6/6	2	9:10:28 AM	9:10:39 AM	0:00:11
6/6	3	9:34:10 AM	9:34:20 AM	0:00:10
6/6	4	10:30:52 AM	10:31:05 AM	0:00:13
6/6	5*	10:39:09 AM	10:39:18 AM	0:00:09
6/6	6**	11:07:37 AM	11:07:47 AM	0:00:10
6/6	7*	11:21:17 AM	11:21:25 AM	0:00:08
6/6	8**	11:36:10 AM	11:36:20 AM	0:00:10
6/6	9n	2:08:19 PM	2:09:04 PM	0:00:45
6/7	1	8:44:52 AM	8:45:04 AM	0:00:12
6/7	2	9:03:26 AM	9:03:36 AM	0:00:10
6/7	3	9:11:13 AM	9:11:23 AM	0:00:10
6/7	4n	12:07:05 PM	12:07:38 PM	0:00:33
6/7	F5	12:36:12 PM	12:36:29 PM	0:00:17
6/7	F6	5:28:33 PM	5:28:43 PM	0:00:10
			<b>AVERAGE</b>	<b>0:00:15</b>
	F#	Failover Tests		
	*	Correction Tests		
	**	Update Tests		
	#n	National Messages		



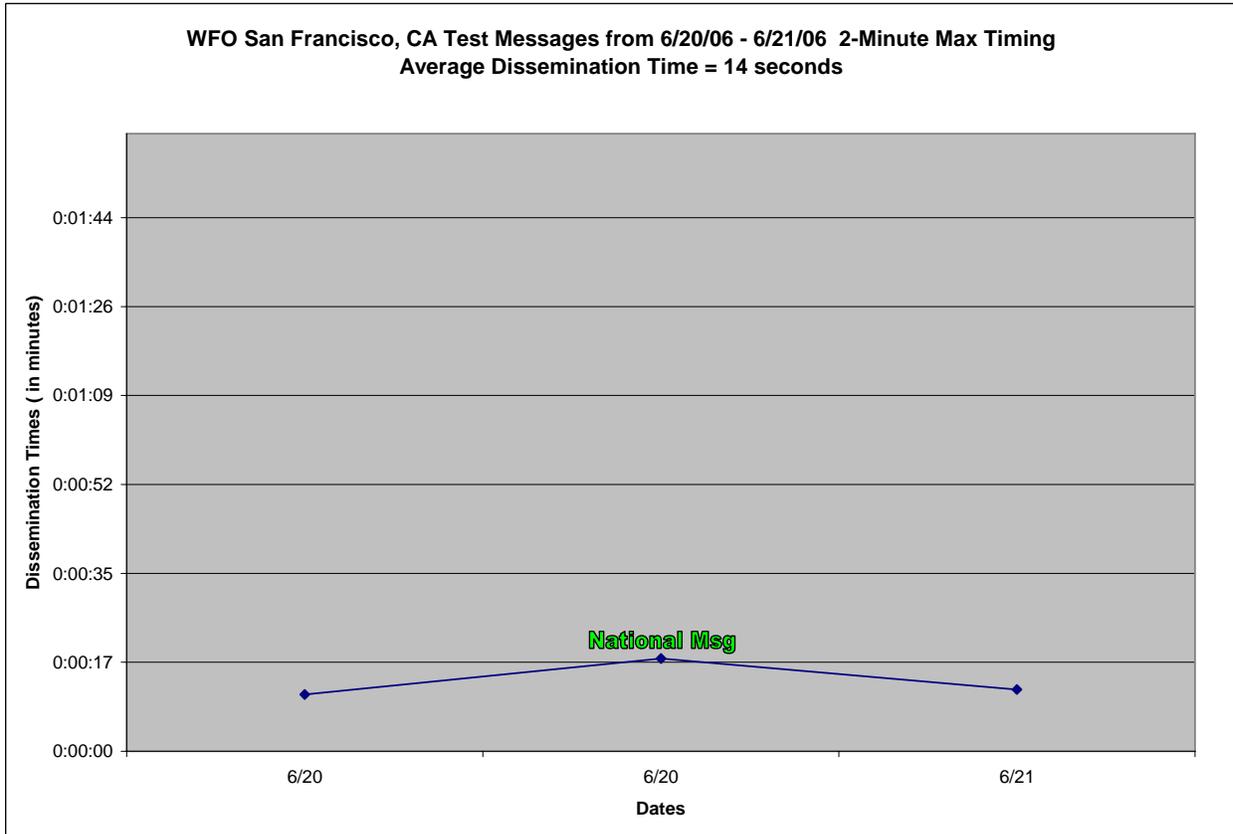
At WFO Paducah, KY, the dissemination time results from 6/13/06 – 6/14/06 are:

Dates	Msg #	From Message Queue	PAMS Log: logStreamExpect	Message Time Delta
6/12	1	7:09:33 PM	7:09:42 PM	0:00:09
6/13	4	10:24:56 AM	10:25:10 AM	0:00:14
6/13	5n	1:20:21 PM	1:20:52 PM	0:00:31
6/14	1	10:47:58 AM	10:48:11 AM	0:00:13
6/14	2*	11:13:48 AM	11:14:01 AM	0:00:13
6/14	2**	11:13:48 AM	11:14:19 AM	0:00:31
6/14	3***	2:21:23 PM	2:21:43 PM	0:00:20
6/14	3****	2:21:23 PM	2:21:34 PM	0:00:11
6/14	4*	2:36:18 PM	2:36:29 PM	0:00:11
6/14	4****	2:36:18 PM	2:36:46 PM	0:00:28
			<b>AVERAGE</b>	<b>0:00:18</b>
	#n	National Message		
	*	For Indiana		
	**	For Kentucky		
	***	For Illinois		
	****	For Missouri		



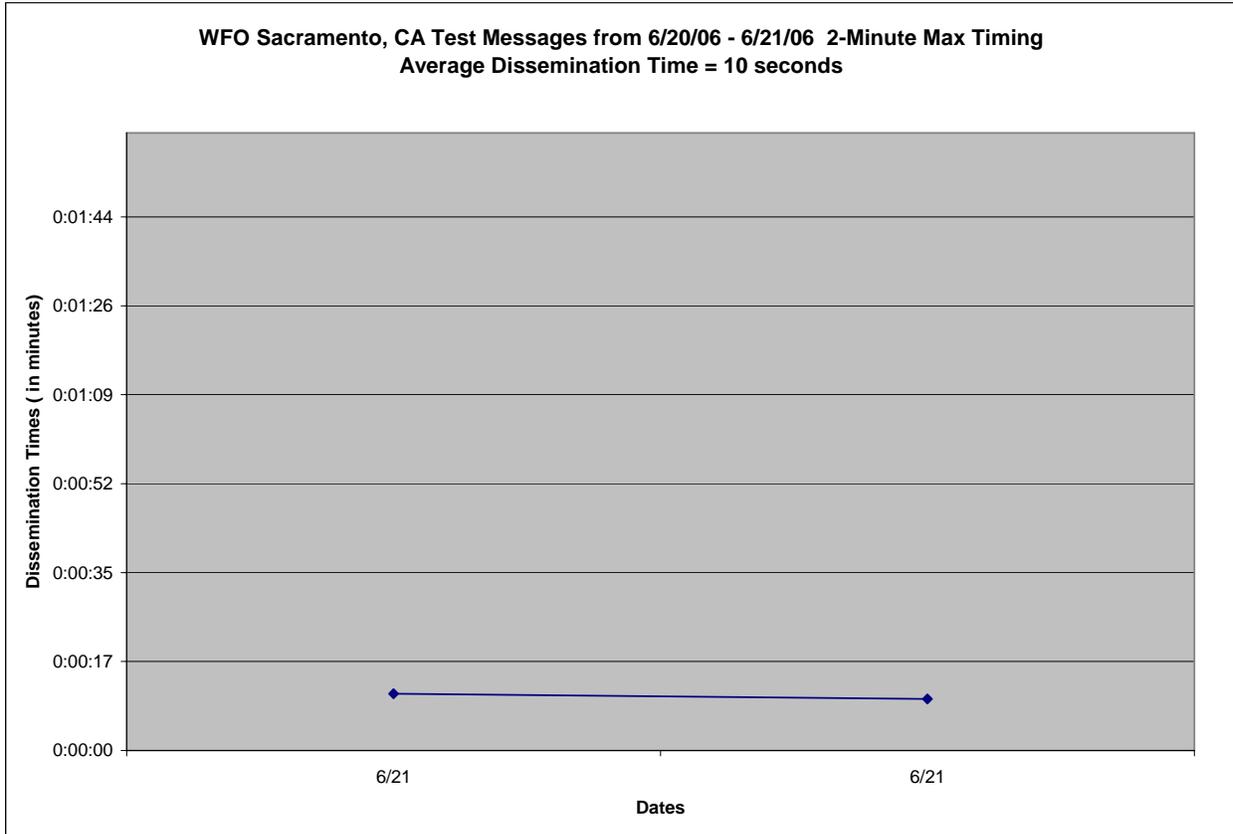
At WFO San Francisco, CA the dissemination time results from 6/20/06 – 6/21/06 are:

Dates	Msg #	From Message Queue	PAMS Log: logStreamExpect	Message Time Delta
6/20	2	10:44:39 AM	10:44:50 AM	0:00:11
6/20	3n	11:13:09 AM	11:13:27 AM	0:00:18
6/21	1*	10:42:33 AM	10:42:45 AM	0:00:12
			<b>AVERAGE</b>	<b>0:00:14</b>
	#n	National Message		
	*	2 Marine zone test		



At WFO Sacramento, CA the dissemination time results from 6/20/06 – 6/21/06 are:

Dates	Msg #	From Message Queue	PAMS Log: logStreamExpect	Message Time Delta
6/21	1*	8:55:07 AM	8:55:18 AM	0:00:11
6/21	2**	9:16:22 AM	9:16:32 AM	0:00:10
			<b>AVERAGE</b>	<b>0:00:10</b>
	*	Split County Test		
	**	State Message Test		

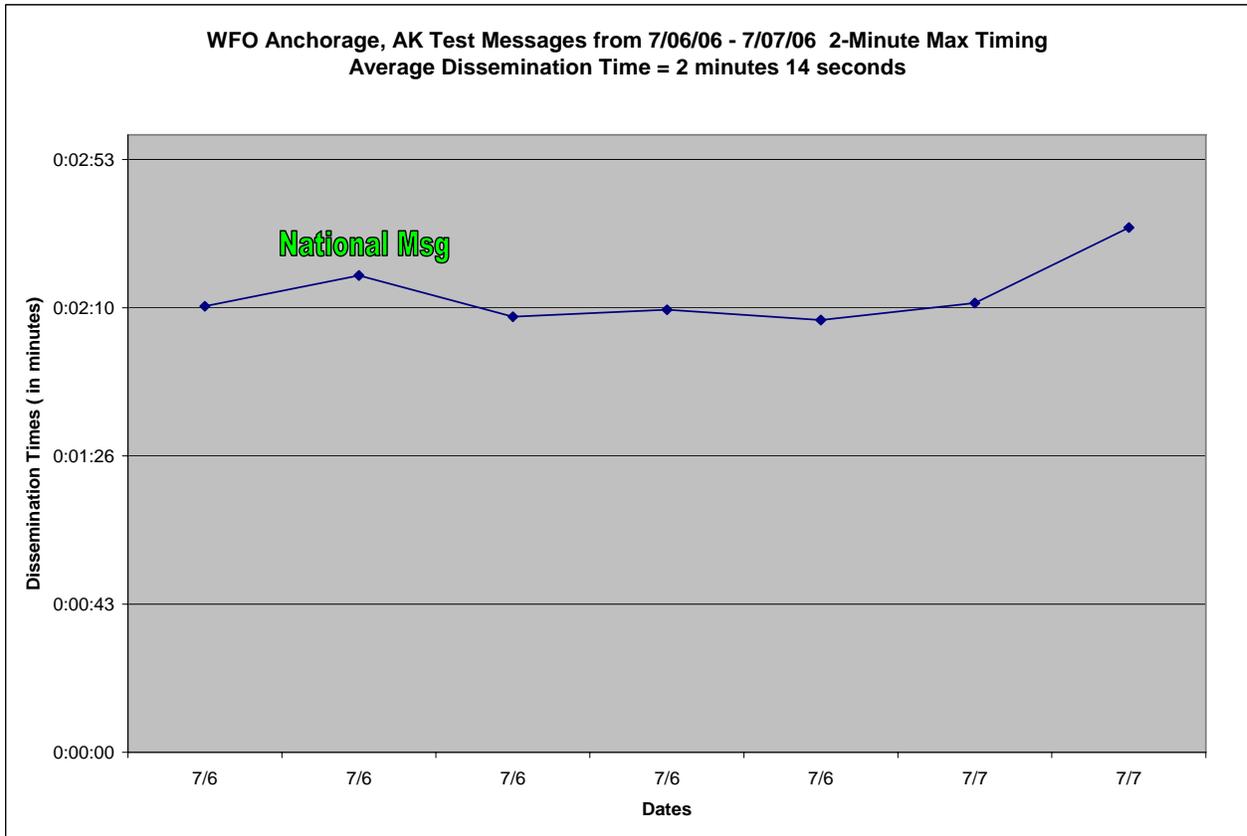


**NOTE:** 10 test ADR messages were actually generated and posted by WFO STO on 6/20/06. These messages were properly sent to WFO MTR, but were not being broadcasted by CRS at WFO STO. After further investigation, these failures were found to have resulted from having sub-directories under the /home/crs/NWEM directory where the NWEM formatter files are located. These sub-directories were created by the WFO STO ITO to store backup versions of the formatter when he was downloading newer versions in an effort to solve the non-broadcast of the NWEM messages at WFO STO. According to MarySue Schultz (GSD), there should not be sub-directories at the NWEM directory.

Upon removal of the sub-directories and subsequent generation and posting of new NWEM messages, these messages were correctly sent to WFO STO and properly verified at AWIPS, scheduled and broadcasted by CRS.

At WFO Anchorage, AK the dissemination time results from 7/6/06 – 7/7/06 are:

Dates	Msg #	From Message Queue	PAMS Log: logStreamExpect	Message Time Delta
7/6	2	10:24:59 AM	10:27:09 AM	0:02:10
7/6	<b>3n</b>	11:10:40 AM	11:12:59 AM	0:02:19
7/6	<b>4*</b>	11:31:47 AM	11:33:54 AM	0:02:07
7/6	<b>5**</b>	11:44:45 AM	11:46:54 AM	0:02:09
7/6	6	3:19:03 PM	3:21:09 PM	0:02:06
7/7	<b>1***</b>	11:10:51 AM	11:13:02 AM	0:02:11
7/7	<b>1***</b>	11:10:51 AM	11:13:24 AM	0:02:33
			<b>AVERAGE</b>	<b>0:02:14</b>
	<b>#n</b>	National Message		
	<b>*</b>	Marine zone test		
	<b>**</b>	Land zone test		
	<b>***</b>	Land & Marine zone test		

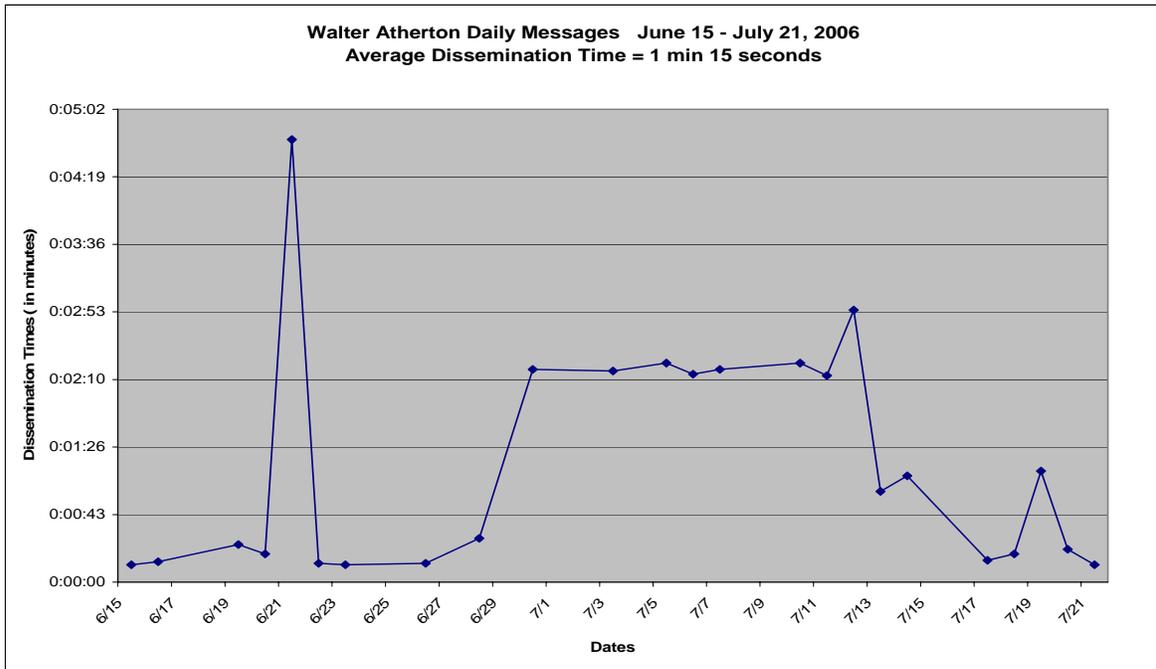


### **E - 3. Dissemination Times Emergency Manager daily messages**

Daily test ADR messages created by EMs and transmitted to CRS were tracked using the HazCollect Server Administration Message Queue utility and the Product Acquisition Monitoring System (PAMS). The Message Queue was used for the start time (received time) and the PAMS were used for the end time (logStreamExpect log).

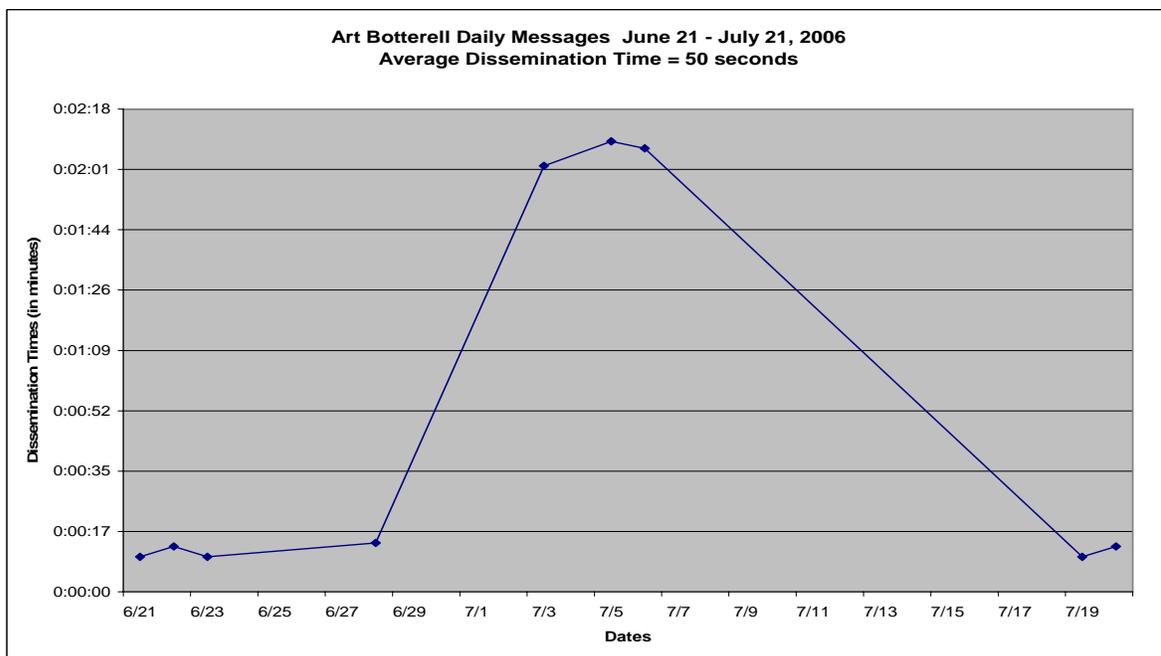
Walt Atherton (Daviess County EM) daily messages from 6/15 through 7/21

**AVERAGE DISSEMINATION TIME: 1 min 15 seconds**



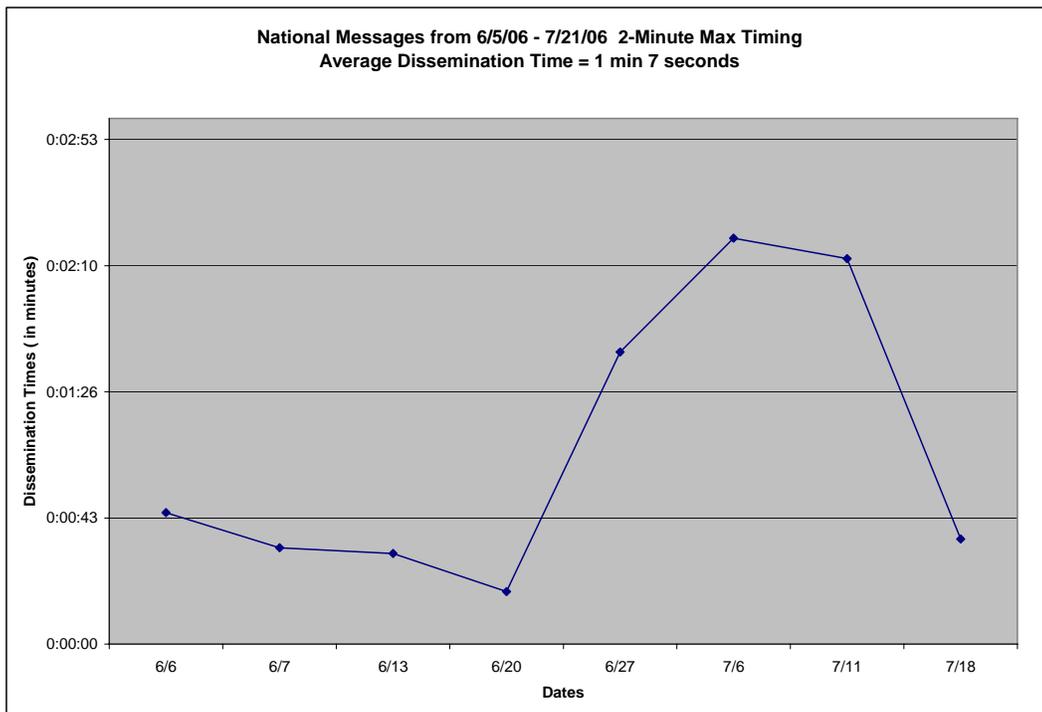
Art Botterell (Contra Costa County EM) daily messages from 6/21 through 7/21:

**AVERAGE DISSEMINATION TIME: 50 seconds**



## E - 4. Dissemination Times for National Messages

For national messages created from June 5 – July 21, 2006



## E - 5. Miscellaneous tests

### - Performance tests

PBZ: 6/6 **Test 230 FAIL.** (Multiple EMs test caused bad expiration date and incorrect text contents (**TTR #8**).

This test also tested the 2 minute timing requirement from EM to NWS dissemination. All single ADR test messages were well within the 2 minute requirement (**PASS**)

MTR: 6/21 **Test 200 PASS.** (5 second authentication)

**Test 220 FAIL.** Did not meet 10 second requirement (**TTR #31**)

**Req 198 #28 Conditional PASS.** Sometimes responses are within 2 seconds, sometimes they are beyond 2 seconds.

AFC: 7/6 **Test 200 FAILED on retest.**

Logging out and in did not display NWEM button (**TTR #36**)

**Test 220 FAILED on retest.**

Did not meet 10 second requirement (**TTR #31**)

### - Other requested tests from OST

Test 200 verified Req 202 (System administrators shall be notified in cases of authentication errors) - **PASS.**

Test 220 verified Req 201 (Once a NWEM is created, HazCollect shall provide an acknowledgement message to the EM of its pending dissemination within 10 seconds) - **FAIL (TTR #31).**

Req 198, (HazCollect shall provide the EM with feedback of their action within 2 seconds with continuous updating within 2 seconds until action is completed) - **FAIL (TTR #41)**

Req 208, (HazCollect server shall process a CAP and transmit the resulting NWEM and transmit the resulting NWEM to the NCF in less than 10 seconds after receipt from DMIS) - DID NOT receive additional information from OST.

## Attachment F – HazCollect Questionnaires / User Surveys

### Weather Forecast Offices:

Test Site: Pittsburgh, PA

Date: Aug 3, 2006

Name and Title: Robert Coblenz, Observation Program Leader

Beginning and Ending Dates of Test: 6-5-2006 to 7-21-2006

AWIPS Build: OB 6.0

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

1 <b>Excellent</b>	2 <b>Good</b>	3 <b>Satisfactory</b>	4 <b>Deficient</b>	5 <b>Unsatisfactory</b>	<b>N/A Does Not Apply</b>
Performed in a manner that could not be improved	Performed well, met field needs and offered some improvements	Performed in a manner that meets basic field needs	Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A Does Not Apply</b>

Statement	1	2	3	4	5	N/A
HazCollect documentation, including any training materials, is adequate and accurate.			X			
AWIPS Information Note 20 instructions are adequate and accurate.		X				
CRS Maintenance Note 63 instructions are adequate and accurate.		X				
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.		X				
HazCollect NWEM dissemination under non-severe weather conditions.			X			
HazCollect NWEM dissemination under severe weather conditions.						X
HazCollect effect on existing NWS infrastructure/dissemination systems			X			
HazCollect effect on WFO operators or forecasters workload.			X			
HazCollect is suitable for general implementation.				X*		

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*\*Too many open TTRs, especially in reference to the DMIS software interface.*

Test Site: Paducah, KY

Date: July 24, 2006

Name and Title: Ricky Shanklin, WFO Warning Coordination Meteorologist

Beginning and Ending Dates of Test: 6-13-2006 to 7-21-2006

AWIPS Build: OB 6.0

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
--	--	---	---	---	-------------------------------------

Statement	1	2	3	4	5	N/A
HazCollect documentation, including any training materials, is adequate and accurate.			X			
AWIPS Information Note 20 instructions are adequate and accurate.			X			
CRS Maintenance Note 63 instructions are adequate and accurate.			X			
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.			X			
HazCollect NWEM dissemination under non-severe weather conditions.		X				
HazCollect NWEM dissemination under severe weather conditions.						X
HazCollect effect on existing NWS infrastructure/dissemination systems			X			
HazCollect effect on WFO operators or forecasters workload.		X				
HazCollect is suitable for general implementation.		X				

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

Test Site: San Francisco Bay Area, CA

Date: July 27, 2006

Name and Title: David Soroka, WFO Warning Coordination Meteorologist

Beginning and Ending Dates of Test: 6-20-2006 to 7-21-2006

AWIPS Build: OB 6.1

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
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Statement	1	2	3	4	5	N/A
HazCollect documentation, including any training materials, is adequate and accurate.		X				
AWIPS Information Note 20 instructions are adequate and accurate.				X		
CRS Maintenance Note 63 instructions are adequate and accurate.	X					
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.				X		
HazCollect NWEM dissemination under non-severe weather conditions.		X				
HazCollect NWEM dissemination under severe weather conditions.						X
HazCollect effect on existing NWS infrastructure/dissemination systems	X					
HazCollect effect on WFO operators or forecasters workload.	X					
HazCollect is suitable for general implementation.			X			

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*AWIPS Information Note and Software Patch were not clear enough regarding steps that did not need to be taken. Many read over that part and went immediately to the tasks – thus causing needless problems.*

Test Site: Sacramento, CA

Date: July 31, 2006

Name and Title: Kathy Hoxsie, WFO Warning Coordination Meteorologist

Beginning and Ending Dates of Test: 6-20-2006 to 7-21-2006

AWIPS Build: OB 6.0

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
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Statement	1	2	3	4	5	N/A
HazCollect documentation, including any training materials, is adequate and accurate.			X			
AWIPS Information Note 20 instructions are adequate and accurate.		X				
CRS Maintenance Note 63 instructions are adequate and accurate.			X			
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.			X			
HazCollect NWEM dissemination under non-severe weather conditions.				X		
HazCollect NWEM dissemination under severe weather conditions.						X
HazCollect effect on existing NWS infrastructure/dissemination systems			X			
HazCollect effect on WFO operators or forecasters workload.				X		
HazCollect is suitable for general implementation.				X		

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*HazCollect does not work effectively with counties shared between WFOs or when multiple messages are sent from one county. The user interface is cumbersome and not intuitive and operator/forecaster workload will be increased dramatically during an event and while trying to remain proficient. HazCollect is not ready for implementation in its current condition. Also, it would be nice to have the location of the most current version of the installation/mod note in the preface of the document. There was confusion as to which version was the latest.*

Test Site: ANCHORAGE, AK

Date: July 24, 2006

Name and Title: Sam Albanese, WFO Warning Coordination Meteorologist

Beginning and Ending Dates of Test: 7-6-2006 to 7-21-2006

AWIPS Build: OB 6.0

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
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Statement	1	2	3	4	5	N/A
HazCollect documentation, including any training materials, is adequate and accurate.	X					
AWIPS Information Note 20 instructions are adequate and accurate.						X
CRS Maintenance Note 63 instructions are adequate and accurate.						X
AWIPS Software Patch-Other Mod Note 24 instructions are adequate and accurate.						X
HazCollect NWEM dissemination under non-severe weather conditions.	X					
HazCollect NWEM dissemination under severe weather conditions.						X
HazCollect effect on existing NWS infrastructure/dissemination systems	X					
HazCollect effect on WFO operators or forecasters workload.	X					
HazCollect is suitable for general implementation.	X					

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

**Emergency Managers:**

Test Site: Allegheny County, PA

Date: August 7, 2006

Name and Title: David Johnson, Planner

Beginning and Ending Dates of Test: 6-6-2006 to 7-21-2006

COG Name & Level: Allegheny County Emergency Services

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
--	--	---	---	---	-------------------------------------

Statement	1	2	3	4	5	N/A
DMIS documentation, including any training materials, is adequate and accurate.				X		
Microsoft LiveMeeting training sessions		X				
HazCollect authentication and authorization processing.		X				
DMIS software user interface ease of use.		X				
DMIS software dissemination of CAP formatted NWEM.		X				
HazCollect alert response and/or any error notification back to DMIS.		X				
DMIS effect on emergency manager workload.			X			
DMIS software is suitable for general implementation.				X		
HazCollect is suitable for general implementation.		X				

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*DMIS documentation was cumbersome and not intuitive beyond the quick start section. As for general implementation if only for HazCollect it is fine but for general implementation for other EM purposes I don't see enough useful features to warrant adding to our existing software learning load.*

Test Site: Daviess County, KY EMA

Date: July 25, 2006

Name and Title: Walter Atherton, Deputy Director Daviess County EMA

Beginning and Ending Dates of Test: 6-13-2006 to 7-21-2006

COG Name & Level: KY Daviess County EMA, Level unknown

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
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Statement	1	2	3	4	5	N/A
DMIS documentation, including any training materials, is adequate and accurate.		X				
Microsoft LiveMeeting training sessions			X			
HazCollect authentication and authorization processing.	X					
DMIS software user interface ease of use.			X			
DMIS software dissemination of CAP formatted NWEM.		X				
HazCollect alert response and/or any error notification back to DMIS.	X					
DMIS effect on emergency manager workload.		X				
DMIS software is suitable for general implementation.						X
HazCollect is suitable for general implementation.			X			

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*I have not worked enough with DMIS to make an intelligent response but I like what I see and look forward to getting more involved over the next few weeks. This would be a natural for EMA use, combining HazCollect with Crisis Management software implemented nationwide.*

*I strongly feel the software must be more intuitive before it is rolled out nationwide. The problem will be with an EM or dispatcher that has not touched the system for a year, then tries to do a quick alert under extreme pressure.*

Test Site: Contra Costa County, CA

Date: July 25, 2006

Name and Title: Art Botterell, Community Warning System Manager

Beginning and Ending Dates of Test: 6-20-2006 to 7-21-2006

COG Name & Level: CA Contra Costa County CWS

Respond to the statements below by checking the rating box that best describes your opinion according to the following code:

<b>1</b> <b>Excellent</b> Performed in a manner that could not be improved	<b>2</b> <b>Good</b> Performed well, met field needs and offered some improvements	<b>3</b> <b>Satisfactory</b> Performed in a manner that meets basic field needs	<b>4</b> <b>Deficient</b> Performed in unsatisfactory manner, does not fully meet field needs, may be workarounds	<b>5</b> <b>Unsatisfactory</b> Performed in a wholly unsatisfactory manner, does not meet field needs and negatively impacts field operations	<b>N/A</b> <b>Does Not Apply</b>
--	--	---	---	---	-------------------------------------

Statement	1	2	3	4	5	N/A
DMIS documentation, including any training materials, is adequate and accurate.				X		
Microsoft LiveMeeting training sessions			X			
HazCollect authentication and authorization processing.				X		
DMIS software user interface ease of use.					X	
DMIS software dissemination of CAP formatted NWEM.					X	
HazCollect alert response and/or any error notification back to DMIS.		X				
DMIS effect on emergency manager workload.				X		
DMIS software is suitable for general implementation.					X	
HazCollect is suitable for general implementation.					X	

Please comment on any item that received **a rating of 4 or 5**. Include any comments received concerning maintenance. You may provide other comments, as desired.

*Documentation – I didn't actually see any. Most critical from my point of view is the API / web service documentation for entering CAP messages from non-DMIS clients.*

*Authentication – Current scheme does not appear to reflect or support existing state and/or regional arrangements.*

*Interface – Many regards in which this interface is confusing... the cryptic "... " small-and-out-of-the-way button for adding information on various screens is one example.*

*Dissemination of CAP-formatted NWEM – Didn't see any instance of this, except for a table within the DMIS tool itself, which didn't really provide any sort of interoperability.*

*Effect on Workload – Current lack of interoperability with other software will mean this is just one more stovepipe system for the busy EM to deal with. Duplicate effort is both a disincentive to use and an additional risk of use that is inconsistent with other systems.*

*DMIS Software Ready – Not by a long shot. The user interface (screens) needs serious review and redesign by somebody with human factors / human-computer interface expertise. (Also may be some performance issues revealed during “surge day” exercise... not enough data on that.)*

*HazCollect Ready – HazCollect will be ready when it is full standards-compliant and interoperable, and thus no longer dependent on a single vendor's product... and when its management plan vis-à-vis existing state and local plans has been articulated and agreed by the stakeholders. Neither of those conditions appears to be satisfied yet.*

## Attachment G – Pre-OAT Issues

### Original Pre-OAT Issues (June 6, 2006)

No.	Description of Issue	Action	June 6, 2006 Status	OAT Wrap-Up Status
5	DT&E Report Needs to be written (due 5/17/06)	Steve Schofield to discuss with Battelle and provide delivery date.	<u>Open.</u> No delivery date yet.	<u>Not a high OAT risk</u>
12	DMIS Client v2.3.1 (pre-requisite for OAT) not yet released to gen. public. Scheduled for 5/4/06.	No immediate action required. New release date set for 5/15/06.	<u>Closed.</u> v2.3.1 released 5/23/06	<u>Closed</u>
13	DMIS System failover not tested in conjunction with HazCollect (affects availability requirement as stated in FRD)	No immediate action required. Test will be conducted during OAT.	<u>Open.</u> Test will be conducted during OAT.	<u>Closed.</u> Additional failover tests during OAT were successful.
14	DR255 not fixed. Wrong coding for AWIPS ID for San Juan. This also causes English text messages to not work. Problem exists at one other site, Guam (Pago Pago).	Fix will be scheduled for a future build. Site will work around in the meantime. Not critical for OAT.	<u>Open.</u> Site will work around until fixed in future build.	<u>Scheduled for fix and included in the proposed Post-OAT build.</u>
17	A single ADR update message could possibly replace active NWEMs that have been played more than once, for the same listening area. The issue is the uncertainty of (1) whether or not all of the NWEMs are properly replaced by the ADR update message, and (2) whether each of the NWEMs is broadcast before it is replaced.	Necessary code changes have been identified and firmly scheduled for OB7.2 release. Not critical for OAT.	<u>Open.</u> OB7.2 release is confirmed.	<u>Fix will be in the AWIPS OB7.2 release</u>
18	Re-test of Circuit failover for Fairmont Rack #2.	Jon Adkins to coordinate and schedule re-test with Battelle asap. Required b/4 OAT start.	<u>Open.</u> re-test not yet scheduled	<u>Closed.</u> Additional failover tests during OAT were successful.
19	Install and test script to send data from BNCF to TG during failover.	Agreed to fix and test during OAT.	<u>Open.</u> Agreed to fix and test during OAT.	<u>Closed.</u> Additional failover tests during OAT were successful.

20	Catastrophic Power failure scenario(s) not tested during DT&E. Simulated via other, less intrusive, methods.	No action planned. Had not been planned to test due to risk of system hw/sw damage. No OAT test planned.	<u>Open</u> . No action planned at this time.	<u>Closed</u>
21	Adjacent marine zones plus shared weather events between WFO's causes improper coding of BBB field in WMO heading	No immediate action planned. These sorts of problems in the BBB field of WMO are well known and somewhat expected by customers. HC program to schedule for future build. Not critical for OAT.	<u>Open</u> Future build.	<u>Scheduled for fix and included in the proposed Post-OAT build.</u>
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 some small number of sites, most notably San Juan (#14) but analysis of that problem led to realization that problem scope goes beyond just San Juan	Analysis showed only one other site affected (Guam-Pago Pago). Will schedule fix (same as #14) for future build, site will work around in the meantime. Not critical for OAT.	<u>Open</u> . Site will work around until future fix delivered.	<u>Scheduled for fix and included in the proposed Post-OAT build.</u>
23	Re-test of Director #1 failure This came about as result of 5/18&5/19 testing of firewall failover.	successfully tested 5/26/06.	<u>Closed</u> successfully tested 5/26/06	<u>Closed</u>

### Remaining Pre-OAT Issues at OAT Wrap-Up Meeting (July 21, 2006)

Item	Issue	Disposition/Status
1	<b>a2a file updates</b>  Note: On May 31, 2006, Herb White (OS51) and Jae Lee (OPS24) manually modified the a2a table on the HazCollect server in preparation for the OAT.	<b>Have we included all changes to the a2a file? Has this file been made available to Battelle to incorporate into HazCollect?</b>  <b>NCF ticket TT257346</b> for a2a problem.  <b>NCF ticket TT257347</b> for badly formatted messages from NWS uplink sites.
2	<b>Waivers/Open/Failed FRD requirements</b>	Waiver status for - Req 62, 86, 137, 147, 166, 176, 177, 178
3	<b>C&amp;A test requirements/test results</b>	Req 117, 118, 119, 120, 121, 127, 128, 129, 184-189, 192-195

Item	Issue	Disposition/Status
4	<b>Retest of requirements at OAT.</b> Req 202 <b>PASS.</b> Req 201 <b>FAIL (TTR #31).</b> Req 198 <b>FAIL (TTR #41).</b> Some responses were within 2 seconds, some were beyond the 2 seconds. Req 208 Was not able to verify during the OAT due to lack of requested information.	Req 208. - "...The HazCollect Server shall process a CAP and transmit the resulting NWEM and transmit the resulting NWEM to the NCF in less than 10 seconds after receipt from DMIS..."
5	<b>Documentation</b> HazCollect User's Manual (or DMIS Operator's Guide) (OST) <u>DRAFT documents:</u> HazCollect Operations Manual (OST) HazCollect ILSP Plan (OST) Updated AWIPS Note 20 (OST) Updated CRS Maintenance Note 63 (OST) AWIPS Application Installation Instructions Note 16 (OST) AWIPS Application Installation Instructions Note 17 (OST)  WFO guidelines for ADR update (OS51)  Appendix G upgrade – SAME/Alert Tones (OS51)  Instructions for Statewide products in NWSI 10-518 (OS51/OS22 Paul Stokols)	4/28/06  O&M library – 7/12/06 7/12/06 7/5/06 7/5/06 7/5/06 Distributed for test – 7/25/06.  Distributed for review – 7/25/06. Final review – Aug 2006  <b>Complete within 6 months per Herb White.</b>
6	<b>Single ADR update replacing other active NWEMs.</b>	(a) Code changes have been identified for OB7.2 maintenance build for automatic pass-through.  (b) NWRWAVES will replace the NWEM formatter in the OB8.0 build.
7	<b>Adjacent marine zones plus shared weather events between WFOs causes improper coding of BBB field in WMO header.</b>	Scheduled for fix and included in proposed Post-OAT build.
8	<b>AWIPS ID mismatch with station ID. (e.g., San Juan, Guam-Pago Pago).</b>	Scheduled for fix and included in proposed Post-OAT build.

## Attachment H – Test Schedule

May 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
April 30	May 1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
		BNCF Retest		NWS Regression Test	NWS Regression Test DMIS V2.3.1 Released	
21	22	23	24	25	26	27
	DMIS V2.3.1 load/install Battelle: HCS ready for OAT	DMIS V2.3.1 load/install HCS turned over to OPS24	DMIS V2.3.1 load/install	DMIS V2.3.1 load/install OPS24 End-To-End Test	DMIS V2.3.1 load/install	
28	29	30	31	June 1	2	3
		Pre-OAT Status Meeting @ 2:00 PM EDT (NWSHQ only)	OAT Test Readiness Review Meeting @ 2:00 PM EDT			

June 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 28	29	30	31	June 1	2	3
					National PNS – OS51 Local PNS – WFO PBZ	Local PNS – WFO PBZ
4	5	6	7	8	9	10
 PBZ: Bert/Jae/Art  Local PNS – WFO PBZ	<b>START OF OAT</b> OAT starts @ WFO PBZ PBZ already Activated	2PM EDT: Test National msg Inform Mike @713-1724 X168 of national msg completion 10AM local:EM daily msg	12 PM EDT: Activate non-OAT sites & test national msg TRG @ 2:00 PM EDT 10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	
11	12	13	14	15	16	17
	PAH: Jae/Art ACTIVATE PAH (SST) List of activated non-OAT sites (SST) Local PNS – WFO PAH 10AM local:EM daily msg	OAT starts @ WFO PAH 2PM EDT: Test National msg 10AM local:EM daily msg	TRG @ 2:00 PM EDT 10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	
18	19	20	21	22	23	24
	MTR: Jae/Herb STO: Bert/Art ACTIVATE MTR/STO (SST) List of activated non-OAT sites (SST) Local PNS – WFO MTR, STO 10AM local:EM daily msg	OAT starts @ WFO MTR & WFO STO 2PM EDT: Test National msg 10AM local:EM daily msg	TRG @ 2:00 PM EDT ADR update writeup validation 10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	
25	26	27	28	29	30	July 1
	List of activated non-OAT sites (SST)	2PM EDT: Test National msg	TRG @ 2:00 PM EDT			
	10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	10AM local:EM daily msg	

July 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
June 25	26	27	28	29	30	July 1
2	3	4	5	6	7	8
	10AM local:EM daily msg	<b>INDEPENDENCE DAY HOLIDAY</b>	AFC: Bert/Herb Local PNS – WFO AFC ACTIVATE MTR/STO (SST) List of activated non-OAT sites (SST) 10AM local:EM daily msg	OAT starts @ WFO AFC 2PM EDT: Test National msg 10AM local:EM daily msg	TRG @ 2:00 PM EDT 10AM local:EM daily msg	
9	10	11	12	13	14	15
List of activated non-OAT sites (SST) 10AM local:EM daily msg	2PM EDT: Test National msg C&A: Contingency plan; incident reporting 10AM local:EM daily msg	C&A: Contingency plan; incident reporting TRG @ 2:00 PM EDT 10AM local:EM daily msg				
16	17	18	19	20	21	22
List of activated non-OAT sites (SST) 10AM local:EM daily msg	2PM EDT: Test National msg 10AM local:EM daily msg	TRG @ 2:00 PM EDT 10AM local:EM daily msg			End of OAT 10AM local:EM daily msg	
23	24	25	26	27	28	29
	C&A: Scan HCS					
30	31		OAT Wrap-Up Meeting @ 2:00 PM EDT			

## Attachment I – HazCollect Tiger Team

The HazCollect Tiger Team was formed in February, 2006 when it was discovered that the AWIPS OB6 release contained functionality associated with HazCollect that had not been coordinated with the field and that would conflict with field issuance of Non-Weather Emergency Messages (NWEM). The HazCollect functionality was identified and immediately disabled at all OB6 sites. The re-enabling of HazCollect functionality at a site came to be called “activation” - i.e., the site is enabled for all HazCollect NWEM issuance, including those originating outside the site, and will actively and correctly process all NWEMs it generates locally and receives from without.

The task of the Tiger Team, announced February 16 was “to find and resolve all conflicts between local apps and HazCollect at each WFO prior to the HazCollect OAT which is currently planned to begin May 8, 2006.”

The scope of the task grew to modifications at each site to ensure all of the following:

- The site has triggers for all NWEM products appropriate to the range of all their CRS transmitters.
- All appropriate products are in the CRS database (e.g., it is not necessary for a southern state to have an Avalanche Watch or Warning in the database).
- There are no application conflicts with the NWEM triggered products.
- All appropriate “C000” entire state listening area county codes are in the CRS database.
- If there are more than 127 CRS triggers for a transmitter, the site has the correct version of the *crs\_site* module.
- The site has the correct version of the HazCollect formatter and there are no sub-directories in /home/CRS/NWEM.

These modifications are specified in:

- AWIPS Application Installation Instruction Note16, “Prepare for HazCollect Implementation in AWIPS”
- AWIPS Information Note 20, “HazCollect Implementation in AWIPS”
- CRS Maintenance Note 63, “Configuration of Console Replacement System (CRS) for HazCollect”

All of these, also collectively called Phase 1 and 2, were tested during the HazCollect OAT, which was rescheduled to June 5 through July 21 as a result of development schedule. The three notes were signed July 3, 2006.

In May, prior to the start of the OAT, it was realized that uncontrolled activations would adversely affect the OAT, but limited numbers of activations would be beneficial, so the number of activated sites was allowed to increase beyond those identified as OAT test sites. These additional sites received the weekly National test message and confirmed proper handling of this vital message type.

The final step, called Phase 3, specified in AWIPS Application Installation Instruction Note17, “All-Hazards Emergency Message Collection (HazCollect) Activation in AWIPS”, instructs the sites to confirm Phase 1 and 2 modifications were performed correctly, specifies how to activate the site, and instructs them to test their local NWEM methods after activation.

This is exactly the state the site would have been in if the new HazCollect functionality had been coordinated at the time of OB6 installation. Information in the three Phase 1 and 2 Notes would have been included in the OB6 installation instruction, and the site would have been automatically “activated”. No separate activation would have been needed. However, due to the inability of postponing OB6 installation to allow time for HazCollect coordination, the current course was laid and HazCollect had to be temporarily disabled while coordination occurred that would allow it to be re-enabled.

The purpose of the HazCollect OAT was “to verify and confirm the successful operation of the HazCollect system in the [NWS WFOs] and existing dissemination infrastructure prior to nationwide deployment.” Here “nationwide deployment” refers to all HazCollect functionality, not limited to site AWIPS or CRS.

An objective of the OAT was to “confirm that ... site setup/configurations are complete and accurate [for] ... AWIPS [OB6] with appropriate HazCollect updates, including the NWEM Formatter.” HazCollect activation of OAT sites was a precondition to performing the OAT with those sites. HazCollect Tiger Team worked closely with OAT team to activate the necessary sites (i.e. bring them up to the required OB6 functionality) in time to meet the OAT schedule. The goal of the Tiger Team “to find and resolve all conflicts between local apps and HazCollect at each WFO prior to the HazCollect OAT” was met only insofar as conflicts resolved at WFOs critical to the OAT, plus a few others.

Information gathered as a result of site activations before, during, and after the OAT was included in Note 17, which was distributed to the regions for testing on July 27, corrected, and delivered to OPS12 on August 31, 2006 for formal issuance. As of September 28, 2006, there are 121 field sites out of 122 (excluding WFO San Juan PR) that had been activated for HazCollect.

## Attachment J – HazCollect FRD Waivers

REQ #	FRD Paragraph #	Description of Requirement	Test Procedure Number	Pass/Fail	Verification Method
62	3.5	The HazCollect Server shall provide the means to assure secure, uninterrupted collection of warnings from up to 20,000 authorized EMs into the NWS IT infrastructure for dissemination via the existing public and private systems used for the current manually generated non-weather hazard warnings.	NO TEST	Waived	Analysis shows DMIS meets this requirement
63	3.5	The HazCollect Server shall provide the capability to simultaneously process up to 20 concurrent CAPs.	TR84	Passed with 19 users	19 of 20 users were successful. The unsuccessful user was not authorized to use the system
86	3.5.4	Deliver the original CAP in the CAP format to the NWS Public Web server for dissemination via the Internet	Need NWS Test	Waived	CAP will be available upon deployment
137	3.7.1.2	The HazCollect Server shall [137] provide audible alarms	TR115	Waived	An alarm on the server will not be necessary.
147	3.7.2.1	HazCollect shall [147] provide the capability for a system administrator to bring the system from power off to operation within 2 minutes	FAILED	Waived	Meeting this requirement is not significant because the system has redundancy as part of the functionality.
166	3.7.2.4	HazCollect shall [166] provide the capability for the system administrator to bring the system from an operating state to a cold state in 2 minutes in an orderly manner	FAILED	Waived	Meeting this requirement is not significant because the system has redundancy as part of the functionality.
176	3.7.3.3	The HazCollect DMIS function shall [176] contain a backup dial-up modem capability allowing DMIS to be accessed from the EM Interface if network connections to DMIS are not available	Waived by FEMA	Waived by FEMA	Letter from William Martin, FEMA, not authorizing modems is shown below
177	3.7.3.3	The HazCollect DMIS function shall [177] only make this backup dial-up capability available to Emergency Managers authorized to send emergency messages to HazCollect.	Waived by FEMA	Waived by FEMA	Letter from William Martin, FEMA, not authorizing modems is shown below
178	3.7.3.3	The HazCollect DMIS function backup dial-up capability shall [178] have at least 48 modems or input channels to access the DMIS system	Waived by FEMA	Waived by FEMA	Letter from William Martin, FEMA, not authorizing modems is shown below

200	3.8.1	An authorization failure message shall [200] be sent back to the EM within 10 seconds.	NO TEST	Waived	
201	3.8.1	Once a NWEM is created, HazCollect shall [201] provide an acknowledgment message to the EM of its pending dissemination within 10 seconds	TR105	Waived	WFO MTR (11.5 seconds) and at WFO AFC (12.5 seconds) on retest.

Deferred requirement:

31	3.3.2	The EM Interface for HazCollect shall provide the EM a choice of creating a Spanish message		Defer to O&M	Although the EM can create a Spanish message, it does not broadcast properly over CRS.
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Letter from William Martin, FEMA, not authorizing modems (Req # 176,177 and 178):

Balancing the access requirements of FEMA business partners against the need to ensure confidentiality, integrity, and availability of FEMA networks continues to be a delicate risk management process. The FEMA Office of Cyber Security (OCS) has carefully reviewed the NWS request to establish modem dial-up access to DMIS. During the security review, OCS identified several serious security risks and concerns associated with granting the requested modem access. Please see below.

- Risk of end users not being properly trained
- Potential network exposure could result in loss of data confidentiality and integrity of FEMA applications
- Potential compromise of FEMA servers
- Introduction of viruses and worms from unprotected dial-up workstations
- Robust Identification and Authentication (I&A) infrastructure would be required before granting
  - Require resources for managing Radius/TACACS/Secure ID Services
  - Require establishment of auditing/accounting methods
  - Help Desk Support would be required
  - User account management/Verification Processes would be required

Based of the security risks and concerns identified above, the OCS has recommended to the FEMA Chief Information Officer (CIO) that the NWS request for Dial-Up access to DMIS be denied. If you have questions or concerns about this decision, I can be reached on (202) 646-3541.

Regards,

William E. Martin

Chief, Office Cyber Security