



OPERATIONAL ACCEPTANCE TEST PLAN

for
*Automated Surface Observing
System (ASOS)*

Replacement Dewpoint Sensor

February 2002

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Office of Systems Operations
Systems Integration Division/Field Systems Branch



TABLE OF CONTENTS

1.	Introduction	I-1
2.	Purpose	I-2
3.	Background	I-2
3.1	System Description	I-3
3.2	Change Requirement	I-3
3.3	Description of Changes	I-3
3.4	Prior Testing	I-3
4.	Test Management	I-3
4.1	Weather Service Headquarters Roles and Responsibilities	I-4
4.2	Test Site Roles and Responsibilities	I-4
4.3	OAT Review Process	I-4
4.4	Test Locations	I-4
4.5	Test Schedule	I-4
5.	OAT System Operation and Maintenance Concepts	I-5
6.	Test Policies and Scope	I-5
6.1	Test Policies	I-5
6.2	Scope	I-5
PART II:	Methodology	II-1
1.	Introduction	II-1
2.	Approach	II-1
3.	Critical Operational Issues for Evaluation	II-1
4.	Test Schedule	II-2
5.	Test Sites	II-2
6.	Test Materials	II-3

7.	Test Methodology	II-3
7.1	Evaluation Criteria	II-4
	7.1.1 Tracking Problems and Deficiencies	II-4
	7.1.2 Evaluation of Test Results	II-5
7.2	Installation and Configuration	II-5
7.3	Test Conduct	II-5
	7.3.1 Test Site Actions	II-5
	7.3.1.1 Procedure: Real-time Monitoring of Observations	II-6
	7.3.1.2 Procedure: Review of Observations	II-6
	7.3.1.3 Procedure: Evaluation of FAA Interfaces	II-6
	7.3.2 Regional Focal Point Actions	II-6
	7.3.3 WSH Actions	II-6
	7.3.4 AOMC Actions	II-7
	7.3.5 NCDC Actions	II-7
7.4	Post-Test Activities	II-7
PART III: Test Reports		III-1
1.	Introduction	III-1
2.	Conference Calls and Interim Reports	III-1
3.	Final OAT Report	III-1

TABLE

DTS1 Dewpoint Sensor OAT Sites I-5

ATTACHMENTS

1. Replacement Dewpoint Sensor Test Sites A1-1
2. Test Procedure A2-1
3. WSH and Field Personnel Contacts A3-1
4. ASOS Test Trouble Report A4-1
5. Replacement Dewpoint Sensor OAT Survey A5-1
6. ASOS Planned Product Improvement Operational Implementation Checklist - Part B . A6-1

Part I: Overview

1. Introduction

The Automated Surface Observing Systems (ASOS) are equipped with a Technical Services Laboratory (TSL) hygrothermometer (either Model 1063 or Model 1088) for the measurement of temperature and dewpoint. For measurement of dewpoint, the TSL 1063/1088 sensors use chilled mirror technology and, in order to maintain satisfactory dewpoint measurement performance, an Electronics Technician (ET) must visit the site and clean the mirror much more frequently than the 90-day maintenance interval prescribed for other ASOS components. For this reason, the NWS ASOS Planned Product Improvement (PPI) Program has identified an alternate technology replacement dewpoint sensor (the Vaisala Model DTS1) which, in testing to date, has satisfied all ASOS dewpoint range/accuracy requirements and is expected to extend the periodic maintenance intervals to 90 days or more. Since the DTS1 measures only dewpoint, the TSL 1063/1088 will remain installed on ASOS to provide the site's operational temperature data while the DTS1 will provide the operational dewpoint data.

The DTS1 can only be installed at sites equipped with the ASOS PPI processor upgrade. The processor upgrade provides the increased processing capability needed to incorporate approved enhancements in future software versions and to support the ASOS PPI components:

- o replacement dewpoint sensor (the DTS1),
- o all-weather precipitation accumulation gauge,
- o ice-free wind sensor,
- o enhanced precipitation identifier, and
- o ceilometer replacement.

The Operational Acceptance Test (OAT) for the processor upgrade began in September 2001, and will continue into early 2002 with a total of 36 sites participating.

The OAT for the DTS1 began on December 19, 2001, and will continue through March 1, 2002. The test coordinator will provide results and an implementation recommendation to the ASOS Program Management Council (APMC) Chair by March 15, 2002.

A climate data continuity study is required for all new ASOS sensors. To facilitate this study, 20 of the 36 processor upgrade OAT sites have been selected as dewpoint sensor OAT sites. One or more of the dewpoint OAT sites is located in each of the 12 climatic regimes specified by the Observing Systems Branch (OS7) to meet the continuity study requirements. The climate data continuity study will be managed by OS7 and is expected to last approximately two years.

2. Purpose

ASOSs operating with the DTS1 must effectively support NWS operations for forecast and warning responsibilities as well as Federal Aviation Administration (FAA) operations. Satisfactory ASOS performance, with the DTS1 installed, must be confirmed at representative field sites before nationwide deployment of the DTS1 can be recommended.

The primary purpose of the OAT is to confirm satisfactory integration of the DTS1 dewpoint sensor into ASOS at representative field sites. Since modifications to the ASOS Acquisition Control Unit (ACU) software have been required to support the DTS1, the OAT must also confirm the overall performance of ACU software version (V) 2.6A. The following must be verified:

- o the implementation process as described in the ASOS Product Improvement Implementation Plan for the ASOS Dewpoint Sensor - Addendum II,
- o correct procedures for the sensor installation in the documentation (ASOS Modification Note 75) provided to the ET,
- o sufficient and accurate user documentation (Release Note),
- o satisfactory ASOS stability, and
- o proper production and transmission of satisfactory ASOS observations/products.

The OAT is not intended as a sensor range/accuracy performance test or as a test of the maintenance strategy. Sensor performance has been verified in prior testing. The evaluation of the maintenance strategy (i.e. Whether the 90 day maintenance interval requirement is met.) will require accumulation of maintenance data over an extended (one year or more) period of time and will be performed by the WSH Maintenance Branch (OPS12).

A secondary purpose of the OAT is to deploy the DTS1 at operational field sites suitable for conducting the dewpoint sensor climate data continuity study.

3. Background

Extensive testing of the DTS1 at the Sterling, Virginia, NWS test facility confirmed the NWS dewpoint measurement range/accuracy requirements are met by the sensor. The ASOS Integration Test verified correct interfacing of the DTS1 to an ASOS on December 12, 2001, at Prism Communications, Incorporated (the processor upgrade software contractor) with ASOS ACU software V2.6A. The System Test (ST), using test ASOSs at NWS Headquarters (WSH), and the Sterling, Virginia, test facility, was completed on January 16, 2002.

3.1 System Description

Under NWS contract, Vaisala developed the DTS1 dewpoint sensor to meet the requirements of NWS Specification H300-SP100. The DTS1 is based on an existing Vaisala commercial sensor (the HMP243), modified to meet the requirements of H300-SP100. During the DTS1 development, the Vaisala redesigned critical components in the probe and interface electronics as a result of anticipated obsolescence issues with the HMP243. Revisions included a stainless steel, hermetically sealed probe; incorporation of the latest Humicap 180 RH sensor; and redesign of the probe interface electronics from a hybrid to a printed circuit board design.

Prism Communications developed ACU software (V2.6A) for the upgraded ASOS processor to support the DTS1 interface. This software incorporates no other changes.

3.2 Change Requirement

The DTS1 has received ASOS Configuration Control Board and APMC approval for testing.

3.3 Description of Changes

The DTS1 can only be installed at sites where the processor upgrade is also installed and, in some cases, the processor upgrade will have already been installed for the processor OAT prior to the DTS1 installation. The required ACU software (V2.6A) will be installed along with the DTS1 (if it has not been installed previously).

The DTS1 will provide all operational dewpoint data and the 1088/1063 dewpoint data will be archived by ASOS for remote access and use in the climate data continuity study. The transition to the DTS1 sensor will be transparent to ASOS observers and users.

3.4 Prior Testing

The DTS1 ST was completed on January 16, 2002. In order to gain experience with the Single Cabinet ASOS (SCA) configuration, the DTS1 was installed at two low risk, , SCA, non-aviation sites (DMH-Baltimore, MD and SNT - Stanley, ID) prior to the completion of the ST.

4. Test Management

The field/operational aspects of the OAT will be managed by the WSH Test and Evaluation Branch (OPS24). The test coordinator is:

Bryan Moore W/OPS24	Phone	301-713-0326 x176
National Weather Service - Station 4384	Fax	301-713-0912
1325 East-West Highway	e-mail	Bryan.Moore@noaa.gov
Silver Spring, MD 20910		

4.1 Weather Service Headquarters Roles and Responsibilities

OPS24 is responsible for preparation and distribution of the OAT plan; advance and day-to-day coordination of test activities; and preparation of a report which documents results and presents recommendations.

OPS12 is responsible for providing Field Modification Kits (FMK) and NWS Engineering Modification Notes (Mod Note) to the ASOS ETs responsible for each test site. Spare DTS1 sensors will be available from OPS12 as required for maintenance purposes.

A Test Review Group (TRG), made up of representatives from Observing Services Division (OS7), Development Branch (ST32), Observing Systems Branch (OS7), Maintenance Branch (OPS12), and Support Branch (OS32) will evaluate each problem reported by the site Focal Points.

4.2 Test Site Roles and Responsibilities

Site Focal Points are responsible for coordinating test site performance monitoring, documenting problems on Test Trouble Report (TTR) forms, reporting problems/results to the test coordinator, and participating in weekly TRG conference calls.

4.3 OAT Review Process

Any ASOS operational problems will be reported (by phone or e-mail) to the test coordinator upon occurrence and documented on the TTR forms (Attachment 4). Each TTR will be forwarded to the TRG members for review.

At the conclusion of the evaluation period, the test coordinator will review the performance of the processor upgrade with the TRG and NWS Region representatives.

4.4 Test Locations

Test sites were selected to include all of the 12 climatic regimes specified by OS7 as required for the climate continuity study. The test sites are listed by NWS Region in the table on the following page..

4.5 Test Schedule

The test began (initial site installation) on December 19, 2001, and will continue through March 1, 2002. The test coordinator will provide test results and an implementation recommendation to the APMC by March 15, 2002.

5. OAT System Operation and Maintenance Concepts

All test sites are commissioned and will continue to provide official observations/products throughout the evaluation period. No changes in station operations are required.

During the OAT, spare DTS1 sensors and ACU processors will be available from OPS12 as required for maintenance purposes.

<u>Eastern Region</u>	<u>Western Region</u>	<u>Alaska Region</u>
DMH Baltimore, MD	BOI Boise, ID	BRW Barrow, Alaska
GFL Glens Falls, NY	CZZ Campo, CA	FAI Fairbanks, AK
PWM Portland, ME	PHX Phoenix, AZ	
	SFO San Francisco, CA	<u>Pacific Region</u>
<u>Central Region</u>	SLC Salt Lake City, UT	ITO Hilo, HI
BIS Bismarck, ND	SNT Stanley, ID	
CNK Concordia, KS	UAO Aurora, OR	
MDW Chicago, IL		
<u>Southern Region</u>		
ATT Austin, TX		
GUY Guymon, OK		
MIA Miami, FL		
MOB Mobile, AL		

Table - DTS1 Dewpoint Sensor OAT Sites

6. Test Policies and Scope

6.1 Test Policies

The installation of the processor upgrade is not to occur at an FAA-staffed or FAA contract-staffed ASOS without agreement by the local FAA management to have their contract observers back up with manual METAR/SPECIs during the period when ASOS cannot generate and disseminate an automated METAR/SPECI.

6.2 Scope

The OAT is intended only to evaluate the integration of the DTS1 into the ASOS. It is not intended as an evaluation of sensor performance.

Part II: Methodology

1. Introduction

During the OAT, the performance of ASOS (with the DTS1 dewpoint sensor installed) will be evaluated at 20 commissioned field sites and the results of the evaluation will form the basis for an implementation decision by NWS management.

2. Approach

The DTS1 will be installed at operational field sites and ASOS performance will be evaluated by on-site or nearby field staff. Weekly TRG conference calls will be held with site Focal Points, regional ASOS Focal Points, and WSH representatives.

The initial field installation was at Baltimore (DMH), Maryland - a non-aviation site. As confidence is gained in the performance of the DTS1 and ACU processor, installation will expand to additional non-aviation sites and to sites with aviation operations.

3. Critical Operational Issues for Evaluation

To determine the suitability of the DTS1 for operational use at commissioned sites, the following must be evaluated:

- o Installation procedures (as documented in the Mod Note and any other instructions provided to the ET or on-site staff).
- o Operator documentation (Release Note).
- o Suitability of the ASOS Planned Product Improvement Operational Implementation Checklist - Part B.
- o ASOS stability.
- o Basic functionality (observation and product generation/transmission, operation of interfaces, etc.) of ASOS with the DTS1 installed.

4. Test Schedule

The schedule for OAT events is as follows:

Installation at Baltimore (DMH), MD	December 19, 2001
Installation at Stanley (SNT), ID	January 16, 2002
Installation at Austin (ATT), TX	January 29, 2002
Installation of remaining sites	February
Evaluate performance	Installation through March 1, 2002
Provide results/recommendations to NWS management	March 15, 2002

5. Test Sites

OAT sites have been selected to include a variety of ASOS configurations and operational scenarios :

- Staffed (augmentation/backup) operations - both full and part-time
- Unstaffed operations
- Redundant processors
- Backup sensors
- Meteorological discontinuity sensors
- Single site thunderstorm sensors
- Automated Lightning Detection and Reporting System (ALDARS) thunderstorm capability
- Freezing rain sensors
- FAA Ground-to-Air (GTA) radio
- NWS Advanced Weather Interactive Processing System (AWIPS) communications (hardwire, dial line, and leased line)
- FAA AWOS/ASOS Data Acquisition System (ADAS) communications
- SCA system configuration
- New Generation Runway Visual Range (NGRVR) interface

The test sites and their characteristics are listed in Attachment 1.

6. Test Materials

OPS12 will provide the required FMK components:

- o DTS1 dewpoint sensor,
- o Mod Note 75 (draft)
- o Processor upgrade with Software Version 2.6A

to the Electronics Systems Analysts responsible for each test site.

7. Test Methodology

Testing will consist of performance monitoring during routine operations. No on-site test activities other than reporting and documenting any ASOS problems are required.

- o ASOS ETs will install the FMKs at the test sites. The installation will be phased as follows:

Baltimore, MD (KDMH),	-	December 19
Austin, TX (KATT), and Stanley, ID (KSNT)	-	Late January
Remaining sites	-	February

- o For all sites, the site focal point will coordinate the completion of the Operational Implementation Checklist - Part B (Attachment 7) according to the direction in the ASOS Product Improvement Implementation Plan for the ASOS Processor Board Upgrade - Addendum I. The completed checklist is to be forwarded to the test coordinator .
- o For NWS-staffed sites, the on-site staff (under the direction of the test site Focal Point) will report any ASOS problems to the test coordinator and document the problems on TTRs for submission to the test coordinator.
- o For sites with FAA or contract staff, an NWS site Focal Point is identified in Attachment 3. The Focal Point will monitor ASOS performance and review observations as required. Responsibility for the evaluation may be assigned to the on-site FAA or contract staff (at the discretion of the region and with the agreement of the FAA) but the NWS Focal Point is responsible for reporting any problems encountered.
- o For unstaffed sites, an NWS site Focal Point (identified in Attachment 3) at the responsible Weather Forecast Office will monitor observations/products remotely and report any problems.

- o The AOMC will provide the test coordinator weekly reports listing cases when test site ASOS observations/products do not arrive at the NWS Telecommunication Gateway as expected.
- o Monthly summary data for one month of operation will be evaluated for several sites.

7.1 Evaluation Criteria

Criteria for the operational suitability of the DTS1 (and the associated V2.6A software) are:

- o Installation procedures and documentation - Documentation (Mod Note and Release Notes) must be clearly written, complete, and easy to follow (subjective evaluation by ETs and test site staff).
- o Interfacing with both NWS and non-NWS systems - ASOS must correctly transmit information for display on the FAA ACE (verification by FAA tower staff). ASOS must correctly incorporate Runway Visual Range (RVR) information from the FAA's NGRVR system into the ASOS METAR reports. ASOS must correctly incorporate thunderstorm information from the FAA's ALDARS system into the ASOS METAR and SPECI reports.
- o Stable ASOS operation - The number of system restarts (i.e., warm boots) must be consistent with or improved over the site's past history.
- o Production, transmission, and archiving of observations/products - Observations must be representative of conditions (within the limitations of the ASOS sensors), correctly formatted, transmitted successfully, and archived in the ASOS data base (evaluation by on-site and/or near by NWS staff).

Since the evaluation of the maintenance strategy (determination of whether the 90 day maintenance interval requirement is met) requires accumulation of data over an extended period of time, it will not be performed as part of the OAT.

7.1.1 Tracking Problems and Deficiencies

The test site Focal Points will report any dewpoint sensor-related or processor-related ASOS problems to the test coordinator and document the problems on TTR forms (provided as Attachment 4). The test coordinator will review the weekly missing observation/product reports provided by the AOMC.

The test coordinator will conduct conference calls (with participation by test site Focal Points, NWS and FAA national, and regional representatives) on a weekly basis, for the duration of the evaluation. Times and specific details will be provided weekly (by e-mail) to participants.

The test site Focal Points (or alternates) should be available for each conference call and be

mail or fax) the Processor Upgrade OAT Survey (Attachment 5) to the test coordinator.

7.3.1.1 Procedure: Real-time Monitoring of Observations

Monitor the observations/products as they are generated by ASOS, paying particular attention to any observations containing remarks or additive data (e.g., precipitation amounts, maximum/minimum temperatures, and three-hour pressure changes) and observations generated during periods when failed sensors are being backed up (either by the observer or the backup sensors). For each observation containing remarks or additive data, review the 5-minute observations and the 1-minute data to verify their appropriateness and accuracy. Periodically call the FAA voice phone and verify the observations (including the required remarks) are being voiced properly.

7.3.1.2 Procedure: Review of Observations

Periodically review the observations in the same manner in which an observer would check the observations taken during the previous shift. For example, check temperature/dewpoint, wind shifts, pressure remarks, variable ceilings, and visibilities. Determine whether specials were taken properly. Evaluate the consistency of precipitation and temperature data from hourly data through 3-hour, 6-hour, daily, and monthly data. Specifically:

- o Hourly/Special Observations -- During each shift, review the ASOS hourly and special observations from the previous shift.
- o Daily Summaries -- Once per day, review the daily summary page to verify consistency with the additive data appearing in the hourly observations. Note: if the daily summary has been manually edited, agreement cannot be expected.
- o Monthly Summaries -- Periodically review the monthly (to date) page to verify consistency with the daily pages. For the “monthly summary” sites, periodically review the monthly summary (to date) to verify the format of the summary and consistency with the daily pages.

7.3.1.3 Procedure: Evaluation of FAA Interfaces

At staffed sites with NGRVR, periodically confirm proper incorporation of RVR in the ASOS METARs and SPECIs.

7.3.2 Regional ASOS Focal Point Actions

The regional ASOS Focal Points are responsible for the resolution of day-to-day operational problems and for participation in the conference calls.

7.3.3 WSH Actions

The test coordinator will provide technical assistance to the regional and site Focal Points as required, chair the conference calls, coordinate the final performance review, provide test results to the APMC Chair by March 15, 2002, and prepare a final report.

7.3.4 AOMC Actions

During the evaluation period, the AOMC will confirm the ability to support the test sites. Results of the AOMC evaluation will be provided to the test coordinator by the end of the evaluation period.

7.3.5 NCDC Actions

For the test sites, the NCDC will continue to perform the routine downloading of ASOS data (high-resolution, daily summary, and monthly summary) via the high-speed modems and report any problems encountered to the test coordinator.

7.4 Post-Test Activities

Unless a decision to the contrary is made by the TRG, the DTS1 and processor upgrade will remain installed at the test sites at the conclusion of the evaluation period.

Part III: Test Reports

1 Introduction

The test coordinator will issue progress reports during the evaluation period and a final report at the conclusion of the OAT.

2 Conference Calls and Interim Reports

Conference calls with site Focal Points and regional ASOS Focal Points will be conducted weekly during the evaluation period. Times and specific details, along with weekly test progress reports, will be provided weekly (by e-mail) to participants. The site Focal Points will report on evaluation progress and any problems noted.

3 Final OAT Report

The test coordinator will provide the APMC Chair with a summary of results and an implementation recommendation by March 15, 2002. In addition, the test coordinator will prepare a final OAT report which fully documents evaluation results.

Replacement Dewpoint Sensor Test Sites

ASOS Replacement Dewpoint Sensor OAT Sites

SID	Name	Dew	Staffing		DCPs	Processors	Multiple Sensors	Comms	ZR	TSTM/ ALDARS	GTA/ ATIS	ACE	NGRVR
			NWS	FAA									
DMH	Baltimore, MD	1088	-	-	SCA	Redundant	-	A-DIAL	-	-	-	-	-
GFL	Glens Falls, NY	HO83	-	-	1 DCP		-	ADAS	ZR	ALDARS	GTA	-	-
PWM	Portland, ME	HO83	FT/C	-	2 DCP		M	A-DIAL	ZR	-	-	-	-
BIS	Bismarck, ND	HO83	FT	-	1 DCP	Redundant	-	A-HW	ZR	-	ATIS	-	-
CNK	Concordia, KS	1088	-	-	1 DCP		-	A-DIAL	ZR	TSTM	GTA	-	-
MDW	Chicago, IL	HO83	-	FT/C	2 DCP		B	ADAS	ZR	ALDARS	ATIS	-	-
ATT	Austin City, TX	1088	-	-	1 DCP	Redundant	-	A-DIAL	-	TSTM	-	-	-
GUY	Guymon, OK	1088	-	-	SCA	Redundant	-	A-DIAL	-	-	GTA	-	-
MIA	Miami, FL	1088	-	FT/C	2 DCP		B	A-LL	-	-	-	-	-
MOB	Mobile, AL	1088	FT	-	1 DCP		B	A-HW	-	-	ATIS	-	-
BOI	Boise, ID	1088	FT	-	1 DCP		-	A-LL	ZR	-	ATIS	-	-
CZZ	Campo, CA	1088	-	-	SCA	Redundant	-	A-DIAL	-	-	-	-	-
PHX	Phoenix, AZ	1088	-	FT/C	1 DCP		B	A-DIAL	-	-	ATIS	-	-
SFO	San Francisco, CA	1088	-	FT/C	3 DCP		M/B	A-DIAL	-	-	ATIS	-	NGRVR
SLC	Salt Lake City, UT	HO83	FT/C	-	2 DCP		M/B	A-HW	ZR	-	ATIS	-	NGRVR
SNT	Stanley, ID	1088	-	-	SCA	Redundant	-	A-DIAL	-	-	-	-	-
UAO	Aurora, OR	1088	-	-	1 DCP	-	-	ADAS	ZR	ALDARS	GTA	-	-
BRW	Barrow, AK	1088	FT	-	2 DCP		M	ADAS	ZR	-	GTA	-	NGRVR
FAI	Fairbanks, AK	1088	-	FT/C	2 DCP		M	ADAS	ZR	-	ATIS	-	NGRVR
ITO	Hilo, HI	1088	PT	-	1 DCP		-	ADAS	-	-	ATIS	-	-

M Meteorological discontinuity sensors
B Backup sensors
A-LL Leased line to AWIPS
A-HW Hardwire to AWIPS
A-Dial Dial to AWIPS

FT Full-time staffing
PT Part-time staffing
/C Contract staffing
/H High ambient temperature site

Test Procedure

Configuration Verification

At some DTS1 OAT sites, the processor upgrade will have been installed in advance of the DTS1 installation. If the processor upgrade and DTS1 are being installed at the same time, this procedure should be performed to verify the before/after ASOS configuration.

The el tech is to print the following pages **prior to beginning installation** of the processor upgrade:

REVUE-SITE-PHYS
REVUE-SITE-VERSN-SW
REVUE-SITE-CONFIG-SENSR
REVUE-SITE-CONFIG-SENSR-ALGOR
REVUE-SITE-EXTRN
REVUE-SITE-CONFIG-DEFIN
REVUE-SITE-CONFIG-COMMS (for each SIO port)
REVUE-SITE-CRIT (each page)
REVUE-SITE-NORML
REVUE-SITE-PRESS
REVUE-SITE-VERSN-SENSR

If the site does not have a printer, the pages should be printed at the el tech's home office before traveling to the site.

After installation of the processor upgrade, each of the above pages is to be reviewed and compared (spot-checking is adequate for the **NORML** and **PRESS** pages) to the printed pre-upgrade page. The el tech is also to review all **MAINT** pages to confirm satisfactory component status (verify no "new" failures - compared to pre-installation status).

WSH and Field Personnel Contacts

WSH Contacts

Bryan Moore	Test and Evaluation Branch	301-713-0326 x176
Al Wissman	Maintenance Branch	301-713-1833 x147
Tim Ross	Observing Services Division	301-713-1792 x114

NCDC Contact

Mike Urzen	828-271-4089
------------	--------------

Regional ASOS Focal Points

Eastern Region	Kevin Murray	631-244-0146
Southern Region	Victor Murphy	817-978-7777 x130
Central Region	Tom Townsend	816-426-3226 x422
Western Region	Kristine Nelson	801-524-5138 x271
Alaska Region	Jack Fey	907-271-5119
Pacific Region	Al Gushikuma	808-532-6435

OAT Site Focal Points

Eastern Region

DMH	Baltimore, MD	John Newkirk (at LWX)	703-260-0105
GFL	Glens Falls, NY	Steve Pertgen (at ALY)	518-435-9570
PWM	Portland, ME	James Mansfield (at GYX)	207-688-3221

Central Region

BIS	Bismarck, ND	Len Peterson	701-250-4224 x327
CNK	Concordia, KS	Bill Newman (at TOP)	785-232-1493 x 327
MDW	Chicago, IL	Bob Collins (at LOT)	815-834-0673 x327

Southern Region

ATT	Austin City, TX	William Runyon (at EWX)	830-629-0130 x210
GUY	Guymon, OK	Glen Woodall (at AMA)	806-335-1835
MIA	Miami, FL	Sue Cawn (at MFL)	305-229-4522
MOB	Mobile, AL	Ron Ferguson	334-633-5456

Western Region

BOI	Boise, ID	Bill Patterson	208-334-9861 x225 208-334-9508
CZZ	Campo, CA	Art Horton (at SGX)	858-675-8700
PHX	Phoenix, AZ	Clyde Vines	602-275-7002 x262
SFO	San Francisco, CA	Jeff Helms (at MTR)	831-656-1710 x262
SLC	Salt Lake City, UT	Steve Summy	801-524-5154 x225
SNT	Stanley, ID	Bryan Tilly (at PIH)	208-232-93-6 x264
UAO	Aurora, OR	Clint Jenson (at PQR)	503-326-2340 x225

Alaska Region

BRW	Barrow, AK	Donovan Price	907-852-4445
FAI	Fairbanks, AK	Mike Centers	907-458-3713

Pacific Region

ITO	Hilo, HI	Richard Mitsutani	808-933-6941
-----	----------	-------------------	--------------

ASOS Test Trouble Report

(program office use)

CONTROL NO.: _____

OTR NO.: _____

OTR approval-ASOS Tech Mgr)

ASOS TROUBLE REPORT

TYPE/NO _____ LOCATION (SID) _____

TROUBLE REPORT TITLE _____

DATE/TIME DISCOVERED _____ ORIGINATOR _____

AFFECTED SUBSYSTEM Replacement Dewpoint Sensor S/W VER V2.6A

A. DESCRIPTION AND CAUSE OF PROBLEM:

B. MAINTENANCE CONSULTED?

___ YES ___ NO (WHY?)

C. PROBLEM NOTED ELSEWHERE?

___ YES (WHERE?) ___ NO

D. TECHNICAL DATA ATTACHED?

___ YES ___ PAGES

___ NO

APPROVED

DATE

Replacement Dewpoint Sensor OAT Survey

ASOS Replacement Dewpoint Sensor OAT Survey

(To be completed by the OAT site Focal Point)

Date Completed: _____ Test Site: _____

Name and Title: _____

Date the dewpoint sensor was installed: _____
(mo/day/yr)

Begin/Ending Dates of Evaluation: _____ - _____

Please respond to the statements below. Circle the number which best describes your opinion according to the following code:

- 1 -- Strongly agree
- 2 -- Mildly agree
- 3 -- Middle ground
- 4 -- Mildly disagree
- 5 -- Strongly disagree
- 6 -- Does not apply (N/A)

1. The procedures in **Mod Note 75** and accompanying documentation for the dewpoint sensor installation could be followed easily (Consult with the el tech if necessary).

1 2 3 4 5 6

2. Operational **stability** of the ASOS was acceptable.

1 2 3 4 5 6

3. **OID** response was not adversely affected by the installation of the dewpoint sensor.

1 2 3 4 5 6

4. ASOS observation/product generation was not adversely affected by the installation of the dewpoint sensor.

1 2 3 4 5 6

5. **ACE** sites: ASOS observation information was properly displayed on ACE equipment (Confirm with FAA staff)

1 2 3 4 5 6

6. **NGRVR** sites: NGRVR information was properly incorporated into the ASOS observation.

1 2 3 4 5 6

7. Service operations at this test site have not been adversely affected due to this change.

1 2 3 4 5 6

8. Overall, I find this modification to be suitable for general implementation.

1 2 3 4 5 6

9. Additional comments:

ASOS Planned Product Improvement Operational Implementation Checklist - Part B

**ASOS Planned Product Improvement
Operational Implementation (OI) Check List - Part B**

Planned Product Improvement: _____

Location (SID, Name, State): _____

Office completing this check list: _____ **Date:** _____

Item #	Item Description	OPR	Completion Date
4.2 Acquisition Activities			
4.	Requisition PPI production units and kits from NLSC as needed	WFO	
4.3 OI Installation Activities			
1.	Download files for NCDC archive	WFO	
2.	Perform installation & checkout in accordance with MOD NOTE	WFO	
4.4 OI Monitoring & Coordination Activities			
1.	Installation notification	WFO	
2.b	Begin 30-day monitoring & coordination	WFO	
2.c	Begin 30-day monitoring & coordination	RFP	
2.d	Begin 30-day monitoring & coordination	AOMC	
5.0 Post OI Activities			
1.	Operational quality control: Monitor ongoing meteorological performance	WFO	
2a.	Ensure system changes are documented through EMRS	OPS12	
2b.	Ensure new EMRS data are documented in the CMIS	OPS13	
2c.	Ensure CMIS documentation changes are entered into NTDB	OPS22	
3.	Dispose of old equipment in accordance with Mod Note	WFO	
4.	Conduct climate continuity study at selected locations (Begin 1-2 year study)	OS7	NA

