



OPERATIONAL ACCEPTANCE TEST PLAN

for

***Automated Surface Observing
System (ASOS)***

Ice-Free Wind Sensor

October 2002

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

TABLE OF CONTENTS

Acronyms	i
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-4
4. Test Management	I-4
4.1 Weather Service Headquarters Roles and Responsibilities	I-4
4.2 OAT Site Roles and Responsibilities	I-4
4.3 OAT Review Process	I-4
4.4 Test Locations	I-5
4.5 Test Schedule	I-5
5. OAT System Operation and Maintenance Concepts	I-5
6. Test Policies and Scope	I-6
6.1 Test Policies	I-6
6.2 Scope	I-6
PART II: Methodology	II-1
1. Introduction	II-1
2. Approach	II-1
3. Critical Operational Issues for Evaluation	II-2
4. Test Schedule	II-2
5. Test Sites	II-3
6. Test Materials	II-3

7.	Test Methodology	II-3
7.1	Evaluation Criteria	II-4
7.1.1	Tracking Problems and Deficiencies	II-5
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	<u>Procedure</u> : Real-time Monitoring of Observations	II-6
7.3.1.2	<u>Procedure</u> : Review of Observations	II-6
7.3.1.3	<u>Procedure</u> : Evaluation of FAA Interfaces	II-7
7.3.2	Regional ASOS Focal Point Actions	II-7
7.3.3	WSH Actions	II-7
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

Model 425NWS Wind Sensor OAT Sites I-5

ATTACHMENTS

1. Ice-free Wind Sensor Test Sites A1-1
2. WSH and Field personnel Contacts A2-1
3. ASOS Test Trouble Report A3-1
4. ASOS Model 425 Wind Sensor OAT Survey A4-1

Acronyms

ACCB	ASOS Configuration Control Board
ACE	ASOS Controller Equipment
ACU	Acquisition Control Unit
ADAS	AWOS/ASOS Data Acquisition System
ALDARS	Automated Lightning Detection and Reporting System
AOMC	ASOS Operations and Monitoring Center
APMC	ASOS Program Management Council
ASOS	Automated Surface Observing System
AWIPS	Advanced Weather Interactive Processing System
CDC	Climate Data Continuity
ET	electronics technician
FAA	Federal Aviation Administration
FMK	Field Modification Kits
GTA	Ground-to-Air
METAR	Aviation Routine Weather Report
Mod Note	NWS Engineering Modification Note
NCDC	National Climatic Data Center
NGRVR	New Generation Runway Visual Range
NWS	National Weather Service
OAT	Operational Acceptance Test
PPI	Planned Product Improvement
RVR	Runway Visual Range
SCA	Single cabinet ASOS
SPECI	Aviation Selected Special Weather Report
ST	System Test
TRG	Test Review Group
TTR	Test Trouble Report
V	Version
WFO	Weather Forecast Office
WSH	NWS Headquarters

Part I: Overview

1. Introduction

Automated Surface Observing Systems (ASOS) are currently equipped with a Model 2000 Belfort Digital Wind System for the measurement of wind speed and direction. The Model 2000 is a development of the Belfort F-420 wind system and has been adapted for use on ASOS. Wind speed is measured using a rotating three-cup device and direction is measured with a vane assembly. Although this system performs well in most conditions, freezing rain can slow or completely immobilize the cups and vane. For this reason, the National Weather Service (NWS) ASOS Planned Product Improvement (PPI) Program has identified an alternate technology (ultrasonic) ice-free wind sensor with no moving parts. In testing to date, the Vaisala/Handar Model 425NWS (Model 425) has satisfied all ASOS wind range/accuracy requirements and has been unaffected by freezing rain. The Model 425 can also be configured to provide three-second wind gusts as required by the World Meteorological Organization. The Model 2000 can only provide five-second gusts.

The Model 425 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 (DTS1),
- o ice-free wind sensor (Model 425),
- o all-weather precipitation accumulation gauge (AWPAG),
- o enhanced precipitation identifier, and
- o ceilometer replacement.

The Operational Acceptance Test (OAT) for the DTS1 is now complete and the OAT for the processor upgrade is currently under way.

The OAT for the Model 425 and Acquisition Control Unit (ACU) software version (V) 2.7A-2 (required to support the new sensor) is scheduled to begin during the week of October 14, 2002, and evaluation will continue through November 30, 2002, at 20 sites. By December 6, 2002, the test coordinator will provide the ASOS PPI Manager with OAT results to support a decision for limited procurement (approximately 100 units) and operational deployment of Model 425 sensors.

Of the 20 OAT sites, 18 will be configured with dual wind sensors. At these sites, the Model 425 will be installed in addition to the Model 2000. The V2.7A-2 software allows the data from either wind sensor to be used operationally with the data from the other wind sensor being archived. The initial OAT installations will be at dual sensor sites with the Model 2000 data being used operationally and the Model 425 data being archived. As confidence is gained in the performance of the Model 425, it will replace the Model 2000 as the operational sensor, with

the Model 2000 data being archived. Ten of the dual sensor sites will serve as Model 425 climate data continuity (CDC) sites for the study required for all new ASOS sensors. The CDC study will be managed by the Observing Services Division (OS7) and is expected to last approximately two years.

2. Purpose

Satisfactory ASOS performance, with the Model 425 installed, must be confirmed at representative field sites before operational deployment can be recommended. With the Model 425 installed, ASOS must effectively support NWS operations for forecast and warning responsibilities as well as Federal Aviation Administration (FAA) operations.

The purpose of the OAT is to evaluate the integration of the Model 425 into ASOS at operational field sites and the performance of ASOS with the Model 425 installed. The OAT is not intended as the definitive meteorological evaluation of the Model 425. A secondary purpose is to deploy the Model 425 (in addition to the Model 2000) at operational field sites suitable for conducting the wind sensor CDC study.

Since modifications to the ASOS ACU software have been required to support the Model 425, the OAT must also confirm the implementation and overall performance of V2.7A-2. The following must be verified in an operational environment:

- o the implementation process as described in the Wind Sensor Implementation Plan,
- o correct procedures for the sensor and processor/software installation in the documentation (ASOS Modification Notes) provided to the electronics technician (ET),
- o sufficient and accurate user documentation (Release Note),
- o satisfactory ASOS stability, and
- o production and transmission of satisfactory ASOS observations/products.

The OAT is not intended as an evaluation of sensor accuracy. Sensor accuracy has been verified (see Section 3 below) in prior testing.

3. Background

Extensive testing of the Model 425 at the NWS Sterling, Virginia, test facility confirmed the NWS wind measurement range/accuracy requirements are met by the sensor. Other sensor testing, which has validated performance in real and simulated winter conditions, included environmental qualification testing (chamber testing performed by the Vaisala/Handar and

witnessed by the Government) and field testing at non-operational sites (Sterling, Virginia; Johnstown, Pennsylvania; Duck Island, North Carolina; St. Johns, Newfoundland). Since it was not possible to evaluate the vulnerability of the Model 425 to wind-blown rain at any of these sites, the initial OAT sites have been selected in areas prone to wind-blown rain. The ASOS Integration Test at Prism Communications, Incorporated (the processor upgrade software contractor) verified correct interfacing of the Model 425 to an ASOS with ACU software V2.7A-2 on December 12, 2001. System Tests (ST), using non-commissioned ASOSs at NWS Headquarters (WSH), and the Sterling, VA, test facility have been or will be performed for three configurations:

Dual wind sensors - Model 2000 configured as the operational sensor

Dual wind sensors - Model 425 configured as the operational sensor

Single wind sensor - Model 425 as the operational sensor

A satisfactory ST is required before each configuration before it is fielded for the OAT. The ST for the dual sensor configuration with V2.7A-2 software and the Model 2000 as the operational sensor was completed on October 10, 2002.

3.1 System Description

Under NWS contract, Vaisala/Handar developed the Model 425 wind sensor to meet the requirements of the NWS-F510-SP1000 (April 1999) specification.

Prism Communications developed revised ACU software (V2.7A-2) for the upgraded ASOS processor to support the Model 425 interface. This software is based on V2.6A-5 (07/08/02) and incorporates fixes for a processor lockup/warmstart problem as well as support for the Model 425.

3.2 Change Requirement

The Model 425 has received ASOS Configuration Control Board (ACCB) and ASOS Program Management Council (APMC) approval for testing.

3.3 Description of Changes

The Model 425 can only be installed at sites where the processor upgrade is also installed and, at some OAT sites, the processor upgrade (with either V2.6A or V2.7A software) will have already been installed prior to the Model 425 installation. New ACU software (V2.7A-2), either on a new processor board or from a Compact Disc, will be installed along with the Model 425. At the dual wind sensor (CDC study) sites, the Model 425 will be mounted on an extension bracket which bolts to the wind tower just below the existing Model 2000 crossarm. At the single wind sensor sites, the mounting bracket for the Model 425 will replace the crossarm.

3.4 Prior Testing

For each of the three wind sensor configurations listed in Section 3 above, success in the ST is a prerequisite for installation of the configuration at the OAT sites.

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.

The WSH Maintenance Branch (OPS12) is responsible for providing Field Modification Kits (FMK) to the ASOS ETs responsible for each test site. For the OAT, OPS12 will provide spare Model 425 sensors as required for maintenance purposes. OPS12 will provide the NWS Engineering Modification Note (Mod Note) for the single sensor sites and the Program and Plans Division (OST1) will provide the Mod Note for the dual sensor sites.

A Test Review Group (TRG), made up of representatives from Observing Services Division (OS7), Development Branch (OST32), Observing Systems Branch (OPS22), Maintenance Branch (OPS12), and Support Branch (OS32) will evaluate each problem reported by the site Focal Points.

4.2 OAT Site Roles and Responsibilities

OAT 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 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 TTR forms. 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 Model 425 and V2.7A-2 with the TRG and NWS Region representatives.

4.4 Test Locations

The test sites are listed by NWS Region in the following table.

Eastern Region BTB Burlington, VT CAR Caribou, ME	Western Region BLU Emigrant Gap, CA * LLJ Challis, ID SFO San Francisco, CA * UAO Aurora, OR	Alaska Region * BRW Barrow, AK KTN Ketchikan, AK SIT Sitka, AK * TKA Talkeetna, AK
Central Region ARR Chicago/Aurora, IL * BFF Scottsbluff, NE * CMX Hancock, MI GFK Grand Forks, ND * HUF Terre Haute, IN OSH Oshkosh, WI * TOP Topeka, KS	Southern Region * FTW Fort Worth, TX * NEW New Orleans, LA	Pacific Region ITO Hilo, HI
Dual sensor site * Wind Climate Data Continuity Study site		

Table - Model 425NWS Wind Sensor OAT Sites

4.5 Test Schedule

The test will begin (initial site installations) during the week of October 14, 2002, and the evaluation continue through November 30, 2002. The test coordinator will provide the APMC and PPI Manager with OAT results to support a procurement decision by December 6, 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.

For maintenance purposes, spare Model 425 sensors will be available from OPS12 during the OAT.

6. Test Policies and Scope

6.1 Test Policies

Under no circumstance will the installation of the Model 425 occur at an FAA-staffed ASOS without informing the local FAA management.

6.2 Scope

The OAT is intended only to evaluate the integration of the Model 425 into the ASOS. It is not intended as an evaluation of sensor accuracy.

Part II: Methodology

1. Introduction

During the OAT, the performance of ASOS (with the Model 425 wind sensor installed) will be evaluated at 20 commissioned field sites. The results of the evaluation will support an NWS management decision on limited procurement (approximately 100 units) and operational deployment of the Model 425.

2. Approach

The Model 425 will be installed at 20 operational field sites and ASOS performance will be evaluated by NWS Headquarters (WSH), on-site, or nearby staff. Since all ASOSs are commissioned and must continue to provide the official observations for the site, evaluation activities will be limited to the monitoring of performance/products and to tests which can be performed without impacting operations. Any problems will be documented on TTR forms and reported to the test coordinator. Weekly conference calls will be held with site Focal Points, regional ASOS Focal Points, and the TRG.

Ten of the dual sensor OAT sites will also participate in a Model 425 CDC study to be managed by OS7. The CDC study will be transparent to the OAT site staff.

The OAT will consist of two phases:

Phase 1

The 18 dual sensor OAT sites will be installed/configured with the Model 2000 as the operational sensor and the Model 425 as the test sensor. The TRG will evaluate the performance of the Model 425. Phase 2 will not begin until/unless the Phase 1 performance of the Model 425 and V2.7A-2 is judged satisfactory by the TRG.

Phase 2

The Model 425 will be configured as the operational sensor at the dual sensor sites and the Model 425 will replace the Model 2000 at two single sensor sites. Performance will be evaluated through November 29, 2002.

At the conclusion of the evaluation period, the test coordinator will review the performance of the Model 425 and V2.7A-2 software with the site Focal Points, regional ASOS Focal Points, regional Systems Operations Division representatives, as well as representatives from OS7, OST32, OPS22, OS32, and OPS12. The test coordinator will provide the PPI Manager with OAT results to support a procurement decision by December 6, 2002.

3. Critical Operational Issues for Evaluation

To determine the suitability of the Model 425 for operational use at commissioned sites, the following must be evaluated:

- o Installation procedures (as documented in the Mod Notes and any other instructions provided to the ET or on-site staff).
- o Operator documentation (Release Note).
- o ASOS stability.
- o Basic functionality (observation and product generation/transmission, operation of interfaces, etc.) of ASOS with the Model 425 configured as the operational sensor.

4. Test Schedule

The schedule for OAT events is as follows:

Installation at beta sites

BTV	September 13
CAR	September 26
BLU	October 4

Installation at Phase 1 (dual sensor) sites
(Configure with Model 2000 as the operational sensor)

GFK, TOP	Week of October 14
ARR, CMX, HUF, KTN, LLJ, OSH, UAO	Week of October 21
BFF, BRW, FTW, NEW, SIT, TKA	Week of October 28

Configure Model 425 as the operational sensor
at dual sensor sites

Based on Model 425 performance

Installation at Phase 2 (single sensor) sites
(SFO, ITO)

Based on Model 425 performance

Evaluate Model 425 and V2.7A-2

Installation through November 30

Provide results to PPI Manager

December 6

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
- Backup sensors
- Meteorological discontinuity sensors
- Single site thunderstorm sensors
- Automated Lightning Detection and Reporting System (ALDARS) thunderstorm capability
- Freezing rain sensors
- FAA ASOS Controller Equipment (ACE)
- FAA Ground-to-Air (GTA) radio
- NWS Advanced Weather Interactive Processing System (AWIPS) communications
- FAA AWOS/ASOS Data Acquisition System (ADAS) communications
- 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 Model 425 wind sensor,
- o Draft Mod Notes
- o Software V2.7A-2 (a complete processor upgrade FMK, just the processor with V2.7A-2, or V2.7A-2 software on a compact disc - as required)

to the ASOS ETs responsible for each OAT site.

This OAT plan will be distributed to the NWS regional ASOS Focal Points, site Focal Points, ETs, and all other participants prior to the beginning of the test.

7. Test Methodology

Testing will consist of performance monitoring during routine operations. No on-site test activities other than monitoring observations/products and reporting/documenting any ASOS problems are required. In some cases, however, the Focal Points may be required to take action to resolve day-to-day operational problems.

- o ASOS ETs will install the FMKs at the test sites.

- o For NWS-staffed sites, the on-site staff (under the direction of the test site Focal Point identified in Attachment 2) 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 2. 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 remains responsible for reporting any problems encountered.
- o For unstaffed sites, an NWS site Focal Point (identified in Attachment 2) at the responsible Weather Forecast Office (WFO) will monitor observations/products remotely and report any problems.
- o The ASOS Operations and Monitoring Center (AOMC) will provide the test coordinator weekly reports listing cases when test site ASOS observations/products are not received 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 Model 425 (and the associated V2.7A-2 software) are:

- o Installation procedures and documentation - Documentation (Mod Notes 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 availability of ASOS observations and products must be consistent with or improved over the site's performance prior to the processor upgrade. The frequency of system lockups/warmstarts must be consistent with or improved over performance prior to the processor upgrade. The TRG will perform the evaluation.
- 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 by ASOS.

7.1.1 Tracking Problems and Deficiencies

The test site Focal Points will report any wind sensor-related or processor-related ASOS problems to the test coordinator and document the problems on TTR forms (provided as Attachment 3). 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 (by e-mail) to participants approximately one week before the first conference call.

Conference call participation by each Focal Point (or alternate) is imperative. Focal points should be prepared to provide a summary of their site's experience with the Model 425 and V2.7A-2, with emphasis on any significant problems encountered. If possible, pertinent data should be provided to the test coordinator via facsimile or e-mail prior to the conference call.

7.1.2 Evaluation of Test Results

Each problem reported by site Focal Points will be evaluated by the TRG (representatives of OS7, OST32, OPS22, OPS12, and OS32). Consultation with test site Focal Points and regional ASOS Focal Points will take place if necessary. For each problem, a determination of criticality and required action will be made.

7.2 Installation and Configuration

The ASOS ETs will install the FMKs according to the schedule in Part II, Section 4. The instructions in the draft Mod Notes will be evaluated during the installation with comments and recommended changes provided to the test coordinator. Any installation problems with the system, Mod Note, procedures, etc. are to be reported **immediately** to the regional ASOS Focal Point and the test coordinator.

7.3 Test Conduct

All of the test ASOSs are commissioned and will continue to provide the official observations/products for the site.

7.3.1 Test Site Actions

During routine operations, ASOS observations will be monitored/reviewed for any occasions when the ASOS does not operate as expected and the problems should be reported to the test coordinator:

Bryan Moore W/OPS24 Phone 301-713-0326 x176
Fax 301-713-0912
e-mail Bryan.Moore@noaa.gov

Problems should be thoroughly documented on TTR forms (provided as Attachment 3) and forwarded by e-mail, fax or mail (overnight, if possible) to the test coordinator. Copies of screens and data printouts (AWIPS and/or ASOS, as appropriate) should be included to provide clarification whenever possible.

At the conclusion of the evaluation period, the site Focal Point will complete and submit (by e-mail or fax) the **ASOS Model 425 Wind Sensor OAT Survey** (Attachment 4) 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, wind, 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 sites with NGRVR, periodically confirm proper incorporation of RVR in the ASOS METARs and SPECIs. At sites with ACE, periodically confirm display of ASOS information on ACE with the FAA.

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 the PPI Manager with OAT results to support a procurement/deployment decision by December 6, 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 National Climatic Data Center (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. Any problems encountered will be reported to the test coordinator.

7.4 Post-Test Activities

Unless a decision to the contrary is made by the TRG, the Model 425 and V2.7A-2 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 weekly 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 will be provided (by e-mail) to participants approximately one week before the first conference call. The site Focal Points will report on evaluation progress and any problems noted.

Weekly test progress reports will be distributed via e-mail to all participants.

3. Final OAT Report

The test coordinator will provide the PPI Manager with OAT results to support a procurement/deployment decision by December 6, 2002. In addition, the test coordinator will prepare a final OAT report which fully documents evaluation results.

Ice-Free Wind Sensor Test Sites

ASOS Model 425 Wind Sensor and V2.7A-2 OAT Sites

SID	Name	Dew	Staffing	DCPs	Processors	Multiple Sensors	Comms	ZR	TSTM/ ALDARS	GTA/ ATIS	ACE	NGRVR
RTV	Burlington, VT	1088	FT	1 DCP	-	-	A-DIAL	ZR	-	GTA	-	-
CAR	Caribou, ME	1088	-	1 DCP	-	-	A-DIAL	ZR	TSTM	GTA	-	-
ARR	Chicago/Aurora, IL	1088	PT	1 DCP	-	-	ADAS	ZR	ALDARS	ATIS	-	-
* BFF	Scottsbluff, NE	1088	-	1 DCP	-	-	A-DIAL	ZR	TSTM	-	-	-
* CMX	Hancock, MI	1088	-	1 DCP	-	-	ADAS	ZR	ALDARS	GTA	-	-
GFK	Grand Forks, ND	HO83	FT	1 DCP	-	-	ADAS	ZR	ALDARS	ATIS	-	-
* HUF	Terre Haute, IN	1088	FT	1 DCP	-	-	ADAS	ZR	ALDARS	ATIS	-	-
OSH	Oshkosh, WI	1088	PT	1 DCP	-	-	ADAS	ZR	ALDARS	ATIS	-	-
* TOP	Topeka, KS	HO83	FT	1 DCP	-	-	ADAS	ZR	-	ATIS	-	-
* FTW	Fort Worth, TX	HO83	FT	1 DCP	-	-	ADAS	ZR	ALDARS	ATIS	-	-
* NEW	New Orleans, LA	1088	FT	1 DCP	-	-	ADAS	-	ALDARS	ATIS	-	-
BLU	Emigrant Gap, CA	1088	-	1 DCP	-	-	A-DIAL	ZR	-	GTA	-	-
* LLJ	Challis, ID	1088	-	1 DCP	-	-	A-DIAL	ZR	-	GTA	-	-
SFO	San Francisco, CA	1088	FT	3 DCP		M/B	A-DIAL	-	-	ATIS	ACE	NGRVR
* UAO	Aurora, OR	1088	-	1 DCP	-	-	ADAS	ZR	ALDARS	GTA	-	-
* BRW	Barrow, AK	1088	FT	2 DCP	-	M	ADAS	ZR	-	GTA	-	NGRVR
KTN	Ketchikan, AK	1088	FT	1 DCP	-	-	ADAS	ZR	-	ATIS	-	-
SIT	Sitka, AK	1088	FT	1 DCP	-	-	ADAS	ZR	-	GTA	-	-
* TKA	Talkeetna, AK	1088	PT	1 DCP	-	-	ADAS	ZR	-	GTA	-	-
ITO	Hilo, HI	1088	PT	1 DCP		-	ADAS	-	-	ATIS	ACE	-

*** Wind Climate Data Continuity Study site**
M Meteorological discontinuity sensors
B Backup sensors
A-Dial Dial to AWIPS

FT Full-time staffing
PT Part-time staffing

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
Ray Downs	Observing Systems Branch	301-713-1725 x157

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	816-891-7734 x422
Western Region	James McClain	801-524-5120 x273
Alaska Region	Jack Fey	907-271-5119
Pacific Region	Al Gushikuma	808-532-6435

OAT Site Focal Points

Eastern Region

BTV	Burlington, VT	Dan Fullington	802-862-8711 x238
CAR	Caribou, ME	Tom Raineri	207-492-0172

Central Region

ARR	Chicago/Aurora, IL	Bill Nelson (at LOT)	815-834-0673 x468
BFF	Scottsbluff, NE	Arthur Hutcheon (at CYS)	307-772-2376 x327
CMX	Hancock, MI	Marvin Taulbee (at MQT)	906-475-5213 x327
GFK	Grand Forks, ND	Mark Ewens	701-795-5198 x327
HUF	Terre Haute, IN	Mike Shartran (at IND)	317-856-0360 x327
OSH	Oshkosh, WI	Allen LaGree (at GRB)	920-494-5845 x327
TOP	Topeka, KS	William Newman	785-232-1493 x327

Southern Region

FTW	Fort Worth, TX	Jim Maxwell	817-831-1581
NEW	New Orleans, LA	Gil Barton (at ORN)	985-645-0899

Western Region

BLU	Emigrant Gap, CA	Doug Swann (at	916-979-3051
LLJ	Challis, ID	Bryan Tilly	208-232-9309
SFO	San Francisco, CA	Jeff Helms (at MTR)	831-656-1710 x262
UAO	Aurora, OR	Bill Flieder (at PDX)	503-326-2340 x260
		Clint Jenson (at PDX)	503-326-2340 x225
		Mark Kerkvliet (at PDX)	503-326-2340

Alaska Region

BRW	Barrow, AK	Donovan Price	907-852-4445
KTN	Ketchikan, AK	Jack Fey (at ARH)	907-271-5119
SIT	Sitka, AK	Jack Fey (at ARH)	907-271-5119
TKA	Talkeetna, AK	Jack Fey (at ARH)	907-271-5119

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)

..X..X..

TYPE/NO _____ LOCATION (SID) _____

TROUBLE REPORT TITLE _____

DATE/TIME DISCOVERED _____ ORIGINATOR _____

AFFECTED SUBSYSTEM Model 425 Wind Sensor S/W VER V2.7A-2

..X..X..X..

.....

___ YES ___ NO (WHY?)

..X..X..X..

___ YES (WHERE?) ___ NO

.....

___ YES ___ PAGES

____ NO

APPROVED _____ DATE _____

ASOS Model 425 Wind Sensor OAT Survey

(To be completed by the OAT site Focal Point)

Date Completed: _____ Test Site: _____

Name and Title: _____

Date the Model 425 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 _____ and accompanying documentation for the Model 425 and V2.7A-2 installation could be followed easily (Consult with the el tech if necessary).

1 2 3 4 5 6

2. Operational _____ of the ASOS was acceptable.

1 2 3 4 5 6

3. The _____ of the ASOS observations has not been adversely affected by installation of Model 425 and V2.7A-2.

1 2 3 4 5 6

4. _____ response was not adversely affected by the installation of the Model 425 and V2.7A-2.

1 2 3 4 5 6

5. ASOS observation/product generation was not adversely affected by the installation of the Model 425 and V2.7A-2.

1 2 3 4 5 6

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

1 2 3 4 5 6

7. .\ \ sites: NGRVR information was properly incorporated into the ASOS observation.

1 2 3 4 5 6

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

1 2 3 4 5 6

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

1 2 3 4 5 6

10. Additional comments: