

SYSTEM TEST REPORT FOR THE ASOS VERSION (V) 2.79E SOFTWARE LOAD

(Dated 11/26/07)

INTRODUCTION - The Office of Operational Systems, Field Systems Operations Center, Test and Evaluation Branch (OPS24), with support from the test personnel at Sterling Research and Development Center (SR&DC), Sterling, VA, has completed a System Test (ST) for the Automated Surface Observing System (ASOS) Acquisition Control Unit (ACU) software load 2.79E, dated 11/26/07. This new load is based on the current operational V2.79D (01/11/07) and is almost identical to V2.79W(dated 10/29/07), but does not include all the diagnostic software contained in V2.79W.

The ST was conducted in accordance to the System Test Plan for ASOS Software V2.79E (11/26/07), issued by email on November 29, 2007. The ST began on November 29 and ended Jan 02, 2008.

OBJECTIVES - To verify the efficacy of the new corrections in V2.79E (11/26/07) on test ASOS systems using the latest weather sensors configured as in the field. Also, to ensure the ASOS system stability is maintained and the existing ASOS functions are not negatively affected by the new changes.

TEST METHODOLOGY - The new software was installed on the ASOS Test Systems SP1 at the National Weather Service Headquarters (WSH), Silver Spring, MD, and ST0 at SR&DC, Sterling, VA, on November 29. The SP1 ASOS has a single Data Collection Platform (DCP) configuration and the ST0 ASOS has a three-DCP configuration.

After the software was installed on the SP1 and ST0 test systems, checkout tests were performed. Subsequently, all planned regression tests (see Attachment 1) were performed to ensure the new fixes have no adverse effect on the existing ASOS system in both functionality and accuracy.

TEST RESULTS - Both the ASOS test system SP1 and ST0 were stable. All conducted regression tests were successful. No new problems were found beyond the two Test Trouble Reports (TTRs 170 and 172) already recorded for the earlier V2.79W(10/29/07).

RECOMMENDATIONS - It is recommended the software version 2.79E be installed at the selected operational test sites with a history of problems associated with the usage of the IFW sensor. Once the software is installed, WSH will monitor those sites and collect the diagnostic data for analysis. If the OT&E is successful, V2.79E will replace V2.79D as the operational baseline software for the Acquisition Control Unit.

POINT OF CONTACT - Khien Nguyen is the OPS24 lead for the ST. Khien can be contacted by e-mail, khien.nguyen@noaa.gov, or by telephone at 301-713-0326 x177.

ATTACHMENT 1

ASOS V2.79E (11/26/07) SYSTEM TEST CHECKLIST (REGRESSION TESTS)

#	TEST #	Test Description	Scenarios: Either ASENSE or LIVE Sensor	Durati on	Pass /Fail	Date	Site
1	01_01	Pre-Installation Routines		4 hrs	P	12/4/07	ST0
2	04_40p	Wind Edit Data Validation		30 min	P	12/4/07	ST0
3	04_39p	Wind Remark/REPRO		1 hr	P	12/4/07	ST0
4	15_01	Wind Algorithm Regression Test - Tests basic functions of the wind algorithm by performing a combination of manual data entry and running on-line data sets [Stop after Step 61].	ASENSE	2 hrs	P	12/5/07	ST0
5	02_08	Command-Time - Verifies or corrects the ASOS site's time. The TIME function calls the AOMC and synchronizes the site's time to the AOMC's time.		15 min	P	12/4/07	ST0
6	03_01	SPECI Generation during hourly edit time and during edit time of another SPECI.	Either	45 min	P	12/4/07	ST0
7	03_07	Editing Present Weather during hourly	Either	½ hr	P	12/4/07	ST0
8	04_27p	Ceiling Special (Falling Below Threshold)	Either	1 ½ hr	P	12/5/07	ST0
9	04_31p	Visibility Special (Falling Below Threshold)	Either	1 hr	P	12/6/07	ST0
10	04_33p	Present Weather Edit/Augment Test Procedure	Either	1 ½ hrs	P	12/7/07	ST0
11	14_02p	15-Min PX Counter Verification	ASENSE	1 hr	P	12/7/07	ST0

12	14_05p	Obstruction to Vision Procedure - Tests the generation of HZ, BR, FG, and FZDZ.	ASENSE	30 min	P	12/7/07	ST0
13	14_06p	PWINO, FZRANO, TSNO, AND PNO Special Notice Remarks		15 min	P	12/6/07	ST0
14	20_2	NGRVR Testing - Verifies edited and automated RVR data, encoding in METAR/SPECIs, SPECI generation.	ASENSE	3 hrs	P	12/13/07	ST0
15	20_4	Ground to Air (GTA) Radio Verification - Verifies the GTA radio is operational by checking that all values on the maintenance page are "P".	Live	15 min	P	12/7/07	ST0
16	20_5	ASOS to AWIPS Interface Verification - Verifies AWIPS ingests and stores ASOS products and these products can be displayed on AWIPS and that AWIPS distributes ASOS products appropriately.		20 min	P	12/13/07	SP1
17	20_6	Navy ATC Interface Test - Checks ASOS/Navy ATC interface for proper output to the ATC monitor.	Live	1 hr	P	12/7/07	ST0
18	11_06	Tornado Hot Key - Tests generation of tornado through different methods and combinations.	Live		P	12/7/07	ST0
19	20_3	ACE Interface Test - Checks ASOS ACE interface for proper output to the ACE simulator			P	12/7/07	ST0
20	20_1	ADAS/ALDARS Interface to ASOS Test - Checks ASOS response to ALDARS data.			P	01/02/08	ST0
21	20_10	Verification of ADAS 1-Minute Data for IFW, DTS1, and AWPAG			P	12/7/07	ST0
22	02_15	Review SYSLOG – This procedure tests the ASOS System logging capability		15 min	P	12/7/07	ST0
23	04_30p	VIS Data Validation		15 min	P	12/7/07	ST0
24	13_06	SKY SPECIALS Checkout		30 min	P	12/11/07	ST0

25	14_01	Present Weather Identifiers/Remarks Verification		2 ½ hrs	P	12/13/07	ST0
26	14_08	SQUALL SPECIAL Verification		15 min	P	12/11/07	ST0
27	20_09	WSP Interface Test		1hr	P	12/12/07	SP1
28	20_11	Verify Correct IFW Error Messages	ASENSE	30min	P	12/17/07	ST0