SYSTEM TEST REPORT

for the
Automated Surface Observing System (ASOS)
Acquisition Control Unit (ACU)
Version 3.05

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Executive Summary

This test report contains the results from the System Test (ST) of the Surface Observing System (ASOS) using the Acquisition Control Unit (ACU) Version (V) 3.05 and Data Collection Platform (DCP) V2.0. The report includes test objectives and criteria, Test Trouble Reports (TTRs), test results, and recommendations.

The V3.05 software load is based on the V2.79, V2.8, and V3.0 software families of interim loads for the ACU. It provides 58 new functionalities to ASOS and 24 operational fixes to the current operational baseline V2.79B, V2.79D, including fixes for V2.79X-Y (CL31 Ceilometer), a new Quality Control (QC) algorithm for the IFW, and new software security features.

The ST began on December 13, 2010 and ended September 23, 2011. The ST was conducted as planned. All ST objectives were met. All critical TTRs found during the ST were adjudicated and resolved. The software has been very stable and all existing functions remain operational and all new features work as designed. All critical problems have been corrected. The remaining TTRs that were not resolved because they are not critical will be addressed in a future software revision. V3.05 software is currently in an Operational Test & Evaluation (OT&E) with the field sites. If successful, it can be used to replace earlier software versions for all operational ASOSs.

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Acronyms

ACE	ASOS Controller Equipment
ACU	Acquisition Control Unit
ADAS	AWOS Data Acquisition System
ALDARS	Automated Lightning Detection and Reporting System
AMR	ASOS Meteorological Report
AOMC	ASOS Operations and Monitoring Center
AWPAG	All Weather Precipitation Accumulation Gauge
APMC	ASOS Program Management Committee
ARCH2	Archive-2
ASENSE	ASOS Sensor Emulation Software
ASOS	Automated Surface Observing System
ATC	Air Traffic Controller
ATIS	Automatic Terminal Information Service
AWIPS	Advanced Weather Interactive Processing System
AWOS	Automated Weather Observing System
CAB	Cabinet
CD	Compact Disc
CL31	Replacement Ceilometer
CLI	Climate Report
CLR	Clear
CM	Change Management
DCP	Data Collection Package
DCM	Direct Command Mode
DS	Daily Summary
DSM	Daily Summary Message
DTS1	Dew-Point Sensor
ECP	Engineering Change Proposal
ET	Electronics Technician
EPI	Enhanced Precipitation Identifier Sensor
EPROM	Erasable Programmable Read-Only Memory
FAA	Federal Aviation Administration
FAAO	FAA Order
FAATC	FAA Technical Center
FAT	Factory Acceptance Test
FMH-1	Federal Meteorological Handbook # 1
FSOC	Field Systems Operations Center
FTI	FAA Telecommunication Infrastructure
FZRA	Freezing Rain
FZRANO	Freezing Rain Not Available
GENOB	Generate Observation
GTA	Ground to Air Radio
IFW	Ice-Free Wind

LST	Local Standard Time
METAR	Meteorological Aviation Routine Weather Report
MS	Monthly Summary
MSM	Monthly Summary Message
NCDC	National Climatic Data Center
NGRVR	Next Generation Runway Visual Range
NWS	National Weather Service
NWSTC	National Weather Service Training Center
OBS	Observations
OID	Operator Interface Device
OMO	One-Minute Observation
OOS	Office of Operational Systems
OPS22	Observing Systems Branch
OPS23	Software Branch
OPS24	Test and Evaluation Branch
OS7	Observing Systems Division
OT&E	Operational Test and Evaluation
OTR	Operations Trouble Report
PHYS	Physical
PL	Ice Pellets
PNO	Precipitation Not Available
PWINO	Precipitation Identifier Information Not Available
PWX	Present Weather
QC	Quality Control
RC	Request for Change
RVR	Runway Visual Range
RVRNO	Runway Visual Range Not Available
SCA	Single-Cabinet ASOS
SFSC	Sterling Field Support Center
SHEF	Standard Hydrometeorological Exchange Format
SP1	Silver Spring, MD, ASOS system
SPAWARSYSCEN	Space and Naval Warfare Systems Center, U.S. Navy
SPECI	Aviation Selected Special Weather Reports
ST	System Test
ST0	Sterling, VA ASOS System 2
ST1	Sterling, VA ASOS System 3
SYSLOG	ASOS System Maintenance Log
TRG	Test Review Group
TSNO	Thunderstorm Not Available
TTR	Test Trouble Report
UPS	Uninterruptible Power Supply
USAF	U.S. Air Force
V	Version
VDU	Video Display Unit

WSH	Weather Service Headquarters
WSP	Weather Systems Processor
WX	Weather

1.0 Introduction

The National Weather Service (NWS) National Headquarters (WSH) Office of Operational Systems (OOS), Field Systems Operations Center (FSOC), Test and Evaluation Branch (OPS24) has conducted a System Test (ST) of the Automated Surface Observing System (ASOS) software load Version (V)3.05, dated 08/31/2010. This new load was based on the V2.79, V2.8, and V3.0 software families of interim loads for the new Acquisition Control Unit (ACU)'s single-board processor. It will replace earlier software versions for all operational ASOSs. This load supports the existing ASOS sensor suite, including the following ASOS sensors: All Weather Precipitation Accumulation Gauge (Ott AWPAG); the Dew-point Temperature Sensor (Vaisala DTS1); the Ice-Free Wind (Vaisala 425 IFW) sensor; and the replacement Ceilometer (Vaisala CL31). It also provides an interface for a Handar 25K Ceilometer to support the USAF operations, including display of visibility in metric units for international sites. In addition, the new load provides 58 new functionalities to ASOS and 24 operational fixes to the current operational baseline V2.79B, V2.79D, including fixes for V2.79X-Y (CL31 Ceilometer), a new Quality Control (QC) algorithm for the IFW, and new software security features.

Since 1992, when the first ASOS sites were commissioned, ASOS users have used group passwords. Group passwords do not meet the password policy and procedures as defined in NOAA IT Security Manual 212-1302, DOC IT Security Program Policy, and DOC IT Minimum Implementation Standards (2009). Since the operating system in ASOS, PSOS was not designed to provide more than a few basic security functions and it has not been supported by industry since 2005, the NWS was limited in its ability to comply with the DOC password policy. Another consideration was that NWS could not lock out users without impacting the availability of ASOS-generated weather data. Also, because the Federal Aviation Administration (FAA) personnel in Air Traffic Control (ATC) towers and radar facilities did not have individual accounts on the FAA IT systems, the FAA would not allow individual passwords. In 2008, the NWS CIO waived the password policy to allow ASOS to continue to use group accounts and passwords. The waiver stipulated that the ASOS group passwords must comply with the DOC policy for group passwords and imposed an additional requirement that NWS change the group passwords every 60 days.

In 2008, the ASOS Configuration Control Board approved five requests for change (RC) submitted by NWS to modify the ASOS IT security capability, in part to comply with the terms of the password waiver. The ASOS Program Management Committee (APMC) agreed to fund the IT Security RCs. RC 10336 provided an improved password management capability. NWS awarded a task to its software contractor and the capability was developed in 2009 and tested (during Factory Acceptance Testing) in early 2010. NWS installed an interim version of the software (i.e., Build 3.03) on an ASOS at the Sterling Field Support Center (SFSC). SFSC personnel used Build 3.03 to prepare and test the Operating Procedures for ASOS Password Management for V3.05. The security features and the Operating Procedures were preliminarily tested on build 3.03 during April 2010.

The ST was conducted in accordance to the System Test Plan for ASOS Software V3.05 (dated 10/28/10), issued in December 2010. The ST was scheduled to be completed in March 2010, but it lasted 6 months longer because of critical errors found with the original software load (dated

10/28/2010). The first ST was conducted from December 2010 through April 2011 and the second ST was conducted from May through June 2011. The first software revision occurred on 05/12/11. The RC-12450 – on Report Processing Page, move Pressure Sensor Prompt to Bottom (with Y/N prompt) and Move ALDARS Prompt to Top – was also added in this version and tested. However, more problems were still present in this first revision and required a second revision (dated 08/31/2011). The ST began on December 13, 2010 and ended September 23, 2011.

2.0 Test Objectives, Strategy, and Evaluation Criteria

2.1 ST Objectives

The specific test objectives and criteria for V3.05 ST were:

A. Verify the ASOS V3.05 software installation instructions (Engineering Modification Note).

Criterion: The Engineering Mod Notes for installation of V3.05 are complete and accurate.

B. Verify all existing ASOS functions, except the ones modified or corrected, remain available and operational.

Criterion: All existing functionalities from previous builds are still operational in V3.05 through regression testing.

C. Verify the new functions and fixes for ASOS V3.05 per official release notes.

Criterion: All the new functions and fixes work as designed.

D. Verify V3.05 provides expected and repeatable observations per given data sets.

Criterion: All observations, climate products, 5-minute and 1-minute observations (OMO), and SYSLOGs are judged by meteorologists to be correct based on given inputs.

E. Verify ASOS communication interfaces for NWS and FAA systems.

Criterion: All METARs, SPECIs, and OMO data are reliably transmitted and received on time.

2.2 Test Strategy

The ST consisted of validation of new functions and fixes, regression testing, system stability testing, climate data validation, and validation of the draft NWS Engineering Modification Notes. Communications, sensors, and peripheral interfaces to the ASOS were also tested.

The primary test systems included the Sterling Field Support Center, Sterling, VA, ASOS Test Systems SCA, ST0, ST1, and the WSH SP1 system. The ASOS Sensor Emulation Software (ASENSE V2.06) program was used to emulate specified ASOS sensors when needed. Additional ASOS systems were used to perform "baseline" and stability tests and validation of the draft installation documentation. These included the systems at the following facilities: The NWS Training Center, Kansas City, MO, and the U.S. Navy SPAWARSYSCEN, Charleston, SC. Testing of the ADAS/ALDARS interface was conducted jointly with the FAA Technical Center, Atlantic, NJ. Testing of the WSP interface was conducted by the FAA ASOS Sensor Group (FAA AJW-14A) in Oklahoma City, OK.

The test systems were configured to simulate, to the extent possible, system configurations used in the field.

2.3 Numerical Assignment of Impact and Priority

On Thursday of each test week, all Test Trouble Reports (TTR) were collected and the Test Review Group (TRG) met to classify the problems. The TRG is a group of subject-matter experts and is currently chaired by the FSOC Director (Acting) or his designee. The TTRs are assigned numerical scores to indicate the severity of the defect, (i.e. the Impact, and the Priority). A 5-point grading system is typically used with 1 being the most severe and 5 being the least severe.

A typical assignment scheme for Impact follows:

1. Prevents successful observation; no workaround.

   ACTION: The TRG will recommend the immediate suspension of ST. The software will be turned over to the developer to resolve the problem. The ST may be resumed at the recommendation of the TRG after an appropriate fix or workaround has been developed. The Test Team may develop new Test Case Procedures and/or repeat selected Test Case Procedures to fully evaluate the proposed solutions.

2. Prevents successful observation; reasonable workaround.

   ACTION: The TRG may recommend continuing the ST with an approved workaround in place until an appropriate fix is developed. If a fix becomes available during the ST, the TRG may recommend the immediate implementation of the fix. The test Team may develop new Test Case Procedures and/or repeat selected Test Case procedures to fully evaluate the fix.

3. Less critical degradation of data.

   ACTION: The ST may continue at the discretion of the TRG. An approved workaround may be authorized until the problem is fixed, but is not mandatory. Routine deficiencies are documented and prioritized by the proper authority for future fixes.

4. Degradation of system capabilities - No data affect

ACTION: The TRG may recommend that the ST continues. The Test Team may develop new Test Case Procedures and/or repeat selected Test Case Procedures in an attempt to reproduce the problem. Any further observations are documented and submitted to the TRG for review.

5. Minimal to no impact - Nice to have

   ACTION: The TRG forwards the recommended change to the System Program Manager for consideration under the Configuration Management process.

6. Undetermined - The impact has not been determined.

   ACTION: None

The Priority addresses how the problem is to be solved. A typical assignment scheme for the Priority follows:

1. Priority 1 – Needs immediate emergency fix.

   ACTION: All appropriate resources are directed to resolve the problem as soon as possible.

2. Priority 2 – Include in next maintenance release.

   ACTION: The available resources are directed to resolve the problem.

3. Priority 3 – Include in future maintenance release.

   ACTION: Resources are directed to resolve the problem as allowed.

4. Priority 4 – Include in next major build.

   ACTION: The item is deferred to the next major release.

5. Priority 5 – Include in future major release.

   ACTION: The item is deferred to future system improvements.

6. Priority 6 – Undetermined: The Priority has not yet been assigned.

   ACTION: None.

No recommendation will be made to proceed to the OT&E if any critical Impact 1 or 2 deficiencies remain open.

3.0 Test Results by NWS

Three versions of the software were tested. The original software version, dated 10/28/2010, was tested from 12/13/10 to 04/22/11 (herein referred to as First System Test). This resulted in 19 Test Trouble Reports (TTR). The second software version, dated 05/12/11, was tested from 05/13/11 to 06/25/11 (herein referred to as First Retest). This resulted in 6 TTRS of which 4 were fixed in the next revised version. The third and final version, dated 08/31/11, was tested from 09/1/11 to 09/23/11 (herein referred to as Second Retest). This resulted in 3 minor TTRs in the area of Ice Accretion remarks. These were treated as watch items.

3.1 First System Test

The first system test started on 12/13/10 to 04/22/11. The results are listed in Attachment 1. A total number of 19 Test Trouble Reports (TTRs) were found. They are listed below. Of these TTRs, 6 were closed by the TRG; 11 were corrected in the first software revision (05/12/11); and the rest, considered to be minor, would be addressed in some future revision.

TTR#247: EDIT Log unavailable for viewing by ATC – Impact 4, Priority 2 – **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR#248: Softkey Button "9" incorrectly programmed – Impact 5 (minimal to no impact – nice to have), Priority 2 – **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR251: In Revue-Site-Version-Sensor menu, the Ceilometer field contains no info about ceilometers – This is a known minor problem – Impact 5, Priority 5 – **Will not be fixed in the revised V3.05 release; a Tech Tip will be generated by the Maintenance Branch to inform field sites of the issue.**

TTR252: F to C algorithm generated unexpected result for dewpoint – Impact 5 and Priority 2 – **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR256: Hard to see display on some ThinClient Display units at SFSC, suggest changing the color of the reverse video background – Impact 4, Priority 6 – Recommended for retesting with the official AXEL model AX300 75C ThinClient. OPS24 and OPS22 personnel tested the official AXEL model AX300 75C ThinClient on 01/26/11 and found no problem. This TTR was **CLOSED**.

TTR264: ACU UPS causing continuous TEST mode on OID – Impact 6, Priority 6.
The inverter board was later found to be defective. The board was replaced and all SOLA UPS Maintenance statuses passed – This TTR was **CLOSED**.

TTR265: Unexpected result for present weather code based on existing test procedure – When the observer entered "SQ+SN –FZRA" the result was coded as "+FZRASN SQ" – Impact 6, Priority 6. Rick Parry (OPS22) believed this result is correctly implemented in accordance to FMH-1 instructions. Sergio Marsh (OS7) has met with Rick Parry (OPS22) to come up with a

final decision. They have decided that the software works as designed and therefore this TTR was **CLOSED**.

TTR266: Extra words (UIU Unidentified User) in REVUE-LOGS-HELP page – The current display label is intended; however it is somewhat confusing; OPS23 will change the label nomenclature for clarity - Impact 5, Priority 6 – **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR267: ST0 at SFSC has been reporting multiple CL31 sensor response timeouts on all DCPs. There were also bad weather and radio transmission errors at the times – Impact 6, Priority 6. Bob Retzaff (NWSTC) said the RF link is operating at 2400 baud rate which is possibly a bottle neck for the data streams from the various sensors. The TRG recommended trouble shooting the radio Comms problem first and continue monitoring the sensor response timeouts. One possible way to reduce the number of sensor response timeouts is to use directional antennae as the Western Region has done. The new antennae have been installed at SFSC and the results are being monitored – **OPEN**

TTR268: On ST0 at SFSC, the ACU/DCP Comms on the Maintenance Page shows untested (*). However, if the ACU/DCP Comms field is selected, it shows all 3 DCPs having one radio in pass (P) status, while the other radio is in the untested (*) – Impact 6, Priority 6.
Bob Retzlaff said it has been a known software bug since the beginning of ASOS, and it is covered in the F100 Manual, Page 2.5.3.4.1. The TRG agreed to close this TTR**.** This TTR was **CLOSED.**

TTR272: AOMC version of the Site Phys Page is not being updated to reflect the uploaded state of the Ice Remarks – Priority 1, Impact 1. Hak Kim said the problem was in the software at the AOMC. He has corrected the AOMC software and the problem was resolved – This TTR was **CLOSED**.

TTR273: Ice Accretion Algorithm yields improper results (too much Accretion) – Impact 1, Priority 1. **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR274: Incorrect computation of Averaged Wind Speed on the Daily Summary – Impact 2, Priority 1. The TRG agreed that this erroneous result needs to be investigated by the Software Branch (OPS23) and if found to be a problem, it is recommended to be fixed in the build prior to ST retest and before OT&E - **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR275: IFW Sensor DQ Check Not Implemented. S01016 – Modification to Wind Data Quality states that for the IFW sensor "a direction change of 1 degree or less is required within 5 minutes before a DQE condition will be set". This means if the wind direction from the IFW sensor does NOT change by >1 degree within 5 minutes, a DQE will be set, a message will be set to the SYSLOG, and the wind will go missing. However, the SP1 ASOS does NOT issue a DQE after 5 minutes of constant wind direction - Impact 6, Priority 6.

According to Hak Kim (OPS23) when a new algorithm to deal with the bird problem was developed, we intentionally suppress any condition that can cause a DQ error. One of them is an error for the failure of wind speed variance. A meeting was held to discuss whether to reinstate this feature. The meeting was attended by Joe Facundo, Chet Schmitt, Dave Mannarano, Joe Fiore, Khien Nguyen, Hak Kim, Bert Viloria, Jennifer Dover. The group agreed to discuss this issue with Greg Dalyai. On discussion with Greg, he recommended that the DQE's NOT be issued and to keep the software to work as it is currently written. The group decided to rescind this TTR and close it. The group also recommended that the last sentence "the ice free wind sonic anemometer uses a data quality algorithm of 1 degress directional change within 5 minutes regardless of temperature" be removed from the current release notes. This TTR was **CLOSED**.

TTR276: ECP S00788 Remove Additive Data from Specials transmitted during Hourly Edit Time. The additive data is still present in the SPECIs being transmitted during the hourly edit time - Impact 6, Priority 6 - **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR277: S00847 Computing Minutes of sunshine at Latitudes Greater than 60 Degrees. A software check was supposed to have been implemented so that ASOS will not compute minutes of sunshine for sites at latitudes greater than 60 degrees. Tests performed on the SP1 ASOS test system show that the minutes of sunshine are not computed regardless of latitudes. The test procedure does not indicate whether a Sunshine Sensor is required or not. Also, NWS has never implemented the Sunshine Sensor. Thus this capability can not be properly verified – Impact 6, Priority 6.

A meeting was held on 04/20/2011 to discuss this issue. The meeting was attended by Joe Facundo, Chet Schmitt, Dave Mannarano, Joe Fiore, Khien Nguyen, Hak Kim, Bert Viloria, Jennifer Dover. The group agreed that this procedure requires a sunshine sensor which is not available. The group also agreed that the Item 16. (COMPUTE MINUTES OF SUN AT LATITUDES GREATER THAN 60 DEGREES) should be removed from the current release notes. On 04/27/2011 this TTR was re-opened, discussed and agreed to be retested by OPS24 using a new test procedure which uses the NORMALS page to verify the minutes of sunshine are not computed at latitudes greater than 60 degrees. On 4/27/11, OPS24 retested this TTR using the new test procedure, and verified that the software is performing as designed. This TTR was **CLOSED.**

TTR278: At SFSC, when a “hard” reset of the DCP#3 was applied at the OID, the sensors data were missing on DCP#3 and would not come back until either “hard” reset of the ACU or a deconfiguration/reconfiguration of the sensors from the DCP. This problem might be related to the Comms or hardware problems on DCP#3. SFSC is investigating - Impact 6, Priority 6 - **OPEN**

TTR281: In the course of verifying the Daily Summary Report (REVUE-RPT-DSM) against the daily summaries, it was discovered that the PEAK WIND SPEED and FASTEST 2MIN SPEED were either missing or corrupted somehow. Examination of the fields where they were supposed to be located showed 10 digits instead of 3 digits and the contents seemed completely unrelated

to the prevailing speeds. This problem was not found on V2.79Y – Impact 6, Priority 6. **This TTR This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

TTR283: Two times during System Testing using SP1, duplicate Meteorological Discontinuity remarks for the CL-31 ceilometer occurred and were displayed on the one-minute screen. The duplicate remarks were found during the multiple ceilometer test of S01107. The remarks displayed (and printed out for evidence) on the one minute screen said: "NW CHI NO CHINO NW". The remarks should have said: "CHINO NW". This same type incorrect remark was found during earlier ST testing for V3.05 when testing multiple ceilometers. This error COULD allow the incorrect remark to be transmitted in a SPECI or METAR – Impact 2, Priority 2. **This TTR would be fixed in the revised V3.05 (dated 05/12/11) release**.

3.2 First Retest

The First Retest was conducted to test the first revision of the software. This software version was dated 05/12/11 and contains fixes for the critical TTRs found during the first round of ST and the inclusion of RC-12450. The retest started on 05/13/11 and ended on 06/23/11.

3.2.1 Changes made in the first software revision (dated 05/12/11)

This first software revision has the following changes and corrections:

a) Implementation of RC 12450 - Moved the Pressure Sensors on the STAT page to the bottom of the listing, and added a message for the Pressure Sensor in the report processing page that will prompt the user with a (Y)es/(N)o response message. In addition, the ALDARS report processing prompt was moved to the top of the list to ease access to the prompt.

b) Correction for TTR 247 - EDIT Log Unavailable for viewing by ATC

c) Correction for TTR 248 - Softkey Button "9" incorrectly programmed

d) Correction for TTR252 - Temperature rounding problem for negative floating value.

e) Correction for TTR266 - UIU info in REVUE-LOGS help screen

f) Correction for TTR 272 - AOMC version of Site Phys page not updated to reflect the uploaded state of the Ice Remarks to ON

g) Correction for TTR 273 - Ice Accretion Algorithm Yields improper results (too much Accretion)

h) Correction for TTR 274 – Avg WS on Daily Summary Page not representative

i) Correction for TTR 276 - ECP S00788 Remove Additive Data from Specials transmitted during Hourly Edit Time

j) Correction for TTR 281 - Missing or corrupted Wind Speeds in DSM Report

k) Correction for TTR 283 - Duplicate CHI Met Disc Remark on One Minute Screen

3.2.2 Results and Problems found during First Retest

The results for the First Retest are listed in Attachment 2. In this retest all the fixes found in the first round of testing were successful but 6 new TTRs were found. These are listed below. Of these 4 were corrected in the next software revision (08/31/11).

TTR284: The ON and OFF keys in the REVUE-SITE-CONFG-CHANGE Page is not defined in the HELP Page. This problem was found while running test procedure 02_01 (UI_Help) (step 137-138) for v3.05 (dated 5/12/11) ST Retest. When logged in as a system manager and moving to the REVUE-SITE-CONFG-SENSR-CHANG page and highlight the FR (freezing rain) sensor: The OFF key appears on the keypad. When the 0 key (HELP key) is pressed the definition for the "OFF" command is not displayed. When the OFF key is pressed the new value on the keypad is ON. When the 0 key (HELP key) is pressed the definition for ON is not displayed. The definitions for OFF and ON need to be added to the help menu – Impact 5, Priority to 5. T**his TTR will not be fixed in the next revised V3.05 release**.

TTR 285: Incorrect Rounding of Negative Celsius Temperature - The temperature conversion from 0 Degree Fahrenheit to Celsius is -17.777778 Degree. According to the Federal Meteorological Handbook No.1 (FMH-1), Section 2.6.3, the value -17.8 Celsius Degree should be retained after rounding. However, in ASOS V3.05 (05/12/2011) the value is displayed as -17.7. The positive Celsius temperature values seem to work properly – Impact 6, Priority 6. **This TTR would be fixed in the revised V3.05 (dated 08/31/11) release**.

TTR 286: Incorrect coding of Ice Accretion Reports - When Test Procedure 1164B was performed, the following failures were observed: 1) I3000 and I6000 did not appear in the METAR reports at synoptic times, 2) I3000 and I6000 did not appear in the AMR reports, 3) AMR reports show I-groups without accretion amounts (The correct implementation should be that if no icing is detected then the I-groups must not be encoded (reported)), and 4) During a synoptic interval, there was missing data so that I1 group was correctly shown with slashes (I1///) but I3 did not (I3) – Impact 5, Priority 5. **This TTR would be fixed in the revised V3.05 (dated 08/31/11) release**.

TTR287: When running Test Procedure RC-12450 and turning report processing OFF and ON for every sensor, it was discovered that the ceilometer (CT-12K or CL31) sensor data in the 12-HR archive was the ONLY sensor where the brackets [ ] continued to be displayed around the data even AFTER Report Processing was turned ON (until 30 minutes later when the sky condition appears on the one minute screen). For ALL other sensors the [ ] are removed from the data in the 12-HR archive immediately after report processing is turn ON, until X minutes later (varies from 2-10 minutes depending on sensor) when the sensor data appears on the one minute screen. Once Report Processing is turned ON, the sensor data is "good" and [ ] should

be removed from the sensor data in the 12-HR archive, INCLUDING the Ceilometer. So, during the 30 minutes it takes to display the sky condition report on the One Minute Screen and use it in METAR/SPECI's the sky field on the one minute screen should remain "MM" missing, and the data in the 12-HR archive should NOT contain [ ], as it is for X minutes for all other sensors. When Report Processing is turned OFF, all sensors (including the ceilometers) immediately have [ ] around the data in the 12-HR archive, which is correct. The TRG assigned Impact 5 and Priority 5 to this TTR. **This TTR will not be fixed in the next revised V3.05 release**.

TTR288: When Test Procedure 1164C was performed, the Ice Accretion reports did not conform to the following requirements: 1) Whenever snow (SN) is encoded in the PRESENT WX field, ASOS shall not include the ice accretion amounts during this period in the AMR and METAR or SPECI reports; 2) When snow (SN) and any automated obscuration, i.e., FZFG, FG, and BR, are encoded in the PRESENT WX field, ASOS shall not include the ice accretion amounts during this period in the AMR and METAR or SPECI reports; and 3) When a combination of snow (SN) and freezing precipitation (FZRA/FZDZ) are entered in the PRESENT WX field, ASOS shall not include the ice accretion amounts during this period in the AMR and METAR or SPECI reports – Impact 6, Priority 6. **This TTR would be fixed in the revised V3.05 (dated 08/31/11) release.**

TTR 289: Ice Accretion remarks are being computed when report processing for the freezing rain sensor is turned off. The requirement is that when report processing for the freezing rain sensor is turned off, ice accretion remarks shall not be computed – Impact 6, Priority 6. **This TTR would be fixed in the revised V3.05 (dated 08/31/11) release.**

3.3 Second Retest

The Second Retest was conducted to test the second revision of the software. This software version was dated 08/31/11 and supposed to contain fixes for the incorrect negative temperature rounding and the ice-accretion remarks and reports. This retest started on 09/01/11 and ended 09/23/11.

3.3.1 Changes made in the second software revision (dated 08/31/11)

This second software revision has the following fixes:

a) TTR 285 - Incorrect Rounding of Negative Celsius Temperature

b) TTR 286 - Incorrect coding of Ice Accretion Reports

c) TTR 288 - Ice Accretion Remarks Computed when snow is present

d) TTR 289 - Ice Accretion remarks are being computed when report processing for the freezing rain sensor is turned off

3.3.2 Results and Problems found during Second Retest

The results for the Second Retest are listed in Attachment 3. In this retest most of the fixes for problems discovered in the first retest were successful. Three minor TTRs related to ice Accretion remarks were found. In situations when FZRA and SN (FZRASN) is manually entered (EDITED) in the Present Weather field, an inappropriate trace amount (I1000, I3000, I6000) will be entered in the remarks section of the METAR/SPECI reports.

TTR291: When Test Procedure 1164A was performed on ST0, the test failed on Steps: 12 and 15. Expected output at step 12 was: No AMR entry at 12:00Z. The output received was: AMR at 12:00 of I1///. Note AMR of I1/// was also received at 11:15Z, 11:30Z, and 11:45Z. There should have been no AMR at these times. Expected output in Step 15 was: AMR at 13:00Z of I1///. The actual output was NO AMR at 13:00Z – Impact 5, Priority 5.

TTR292: When Test Procedure 1164B was performed on ST0, the expected output for the AMR remark at 11:00Z was NO AMR remark. An AMR remark of I1000 was produced at 11:00Z. In addition, an ice accretion remark (AMR) of I1000 was produced at 10:15Z, 10:30Z, and 10:45Z, when no remarks should have been generated during that time – Impact 5, Priority 5.

TTR293: When analyzing results of Test 4 in Test Procedure 1164C, when freezing rain and snow (-FZRASN) are edited into the present weather field, there should be no AMR amount during the time (hours) when snow is present in the present weather field (-FZDZSN). AN AMR of I1000 (and I3000 I6000) was present during every hour that -FZRASN was present in the present weather field. In addition, the METAR also has I1000 (and I3000 I6000 at 3 and 6 hour synoptic times) for all METARS during the test. TTR 288 was written to specifically test for mixed freezing precipitation (FZRA/FZDZ) and Snow. This output (AMR I1000, I3000, I6000) should not have been present at any time during the test – Impact 5, Priority 5.

3.3.3 Discussion of problems found in Second Retest

On Monday, September 19, 2011, an emergency TRG Meeting was held to discuss the above TTRs (#291, #292, and #293). The unintended Ice Accretion remarks are results of the current algorithm and the software was correctly coded in accordance to the current algorithm (per Hak Kim NWS/OPS23). The algorithm needs to be modified (by an RC) and the software needs to be revised to correct these TTR's. These unintended remarks will occur ONLY if an observer edits (augments) the present weather field to add a mix of freezing rain and snow (FZRASN) or freezing drizzle and snow (FZDZSN). The remarks that will be generated are I1000, I3000, or I6000. This will be a rare occurrence, and it will not affect the calculation of the actual accumulation (accretion) of ice in the icing remark. The I1000, I3000, I6000 will appear on the OID and VDU and in the METAR. It might take a few months to improve the algorithm and the software.

The owner of the ASOS systems (Joe Facundo, NWS/OPS22) said he can accept these current deficiencies because they are rare and not critical enough to delay the OT&E from which more can be learned from the current software. He recommended that these TTRs be treated as watch items and closely monitored during the OT&E. If these turn out to be significant problems during the OT&E, an RC for algorithm improvement will be generated and the algorithm logic and software be revised in a future release. The ASOS team members that were present at the 9/19/11

meeting agreed with the ASOS system owner, and the other TRG members were briefed on this decision on 09/28/2011.

4.0 Test results by other agencies

The participating agencies were given the original software V3.05 (dated 10/28/2010) to install on there test beds to check out the software and to report any problem with the installation and or software performance. The results were as follows

- NWSTC successfully installed V3.05 on their systems and did not report any problem.
- FAA AJW-14A, Oklahoma City, OK successfully tested the ASOS interface to the Weather Systems Processor (WSP).
- FAA Test Group @ FAA Technical Center Atlantic City, NJ successfully conducted ADAS/ALDARS test with SFSC.
- NAVSYSCEN Charleston, SC successfully installed V3.05 on their systems and did not report any problem.
- NCDC successfully received data from dial-up using new software security features.

5.0 Conclusions and Recommendations

The ST was conducted as planned. All ST objectives were met. The software has been very stable and all existing functions remain operational and all new features work as designed. All critical problems have been corrected. The remaining TTRs that were not resolved because they are not critical are summarized in the following table. It is recommended that V3.05 software undergoes an Operational Test & Evaluation (OT&E) with the field sites prior to general deployment.

Summary of TTRs not corrected in V3.05

TTR#		Impact	Possible Cause	Status
TTR251	In REVUE-SITE-VERSN-SENSR menu, the ceilometer field (informational) contains no information about ceilometers. Instead there is a row of "*". This is a known problem.	5	Software deficiency	Either a Tech Tip or a Maintenance Note will be generated by the Maintenance Branch to address this situation.
TTR267	ST0 system with 3 DCPs at SFSC has been reporting multiple CL31 sensor response timeouts	6	Suspected bad communications between ACU and DCPs	Existing antennae have been replaced with directional (Yagi) ones, resulting in much improvement.
TTR278	At SFSC, when a "hard" reset was applied at OID, the sensors	6	This problem might be related to the Comms or	The technician at SFSC is trouble

	data were missing and will not come back until either a “hard” reset of the ACU or a deconfig/reconfig of the sensors from the DCP.		hardware problems on DCP#3	shooting the hardware.
TTR284	The ON and OFF keys in the REVUE-SITE-CONFG-CHANGE Page is not defined in the HELP Page.	5	Software deficiency	This TTR will not be fixed in V3.05.
TTR287	The ceilometer (CT-12K or CL31) sensor data in the 12-HR archive was the ONLY sensor where the brackets [ ] continued to be displayed around the data even AFTER Report Processing was turned ON (until 30 minutes later when the sky condition appears on the one minute screen).	5	Software deficiency	This TTR will not be fixed in V3.05.
TTR291	Inappropriate trace amount in Ice Accretion remarks when FZRA and SN (FZRASN) is manually entered (EDITED) in the Present Weather field.	5	Algorithm/Software deficiency	This TTR will not be fixed in V3.05.
TTR292	Inappropriate trace amount in Ice Accretion remarks when FZRA and SN (FZRASN) is manually entered (EDITED) in the Present Weather field.	5	Algorithm/Software deficiency	This TTR will not be fixed in V3.05.
TTR293	Inappropriate trace amount in Ice Accretion remarks when FZRA and SN (FZRASN) is manually entered (EDITED) in the Present Weather field.	5	Algorithm/Software deficiency	This TTR will not be fixed in V3.05.

ATTACHMENT 1 – FIRST SYSTEM TEST CHECKLIST

ASOS V3.05 REGRESSION TESTS CHECKLIST
Note: Completed Procedure is denoted as 1
Not yet completed is denoted as 0

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
1	01_01	**Pre-Installation Routines**		240		HQ	SP1	Joe F.	1
2	02_01	**UI_Help**			01/12/11	HQ	SP1	Joe F.	1
3	02_02	**UI_Print**			01/05/11	SFSC	ST1	SFSC	1
4	02_04	**Command - Observation -** The CMD-OBS function allows the observer to generate corrected METAR/SPECI reports, transmit a pending SPECI before the edit time expires, and cancel a pending SPECI report before it is transmitted.	Either	30	02/28/10 01/04/11	SFSC	SCA ST1	SFSC	1
5	02_06	**UI_CMD_Phone**		30	01/05/11 01/26/11	SFSC	ST0 SCA	SFSC	1
6	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	12/20/10 01/27/11	SFSC	ST1 SCA	SFSC	1
7	02_13	**REVUE SITE VERSN** UPDATE: This deficiency has been adjudicated by TRG to be I5, P5 and will be handled via maintenance tech tip		60	12/17/10	SFSC	ST1	SFSC	1
8	03_03	**Single_Cab_Mods**		120	02/10/11	SFSC	SCA	Khien	1
9	03_04	**12_Hr_ARC**		15	01/05/10	SFSC	ST1	SFSC	1
10	03_06	**LST_Updates_in_OBS_ARC**			04/20/11	SFSC	ST0	Khien and Jen	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
11	03_07	**Edit_presentWX_During_Hourly**		10	12/22/10 12/21/10	SFSC SFSC	SCA ST1	SFSC	1
12	03_13	**Edit_during_SPECI_Gen**		30	12/27/10 01/05/11	SFSC SFSC	SCA ST0	SFSC	1
13	03_19	**Runway_Designator_for_RVR**	ASENSE		02/01/11	SFSC	ST0	Joe	1
14	04_26p	**Sensor_Edit_Interaction**	ASENSE		12/29/10	SFSC	ST1	SFSC	1
15	04_34p	**Celsius_Temp**		10	12/27/10 01/04/11	SFSC SFSC	SCA ST1	SFSC	1
16	04_35p	**Farenheit_Temp** UPDATE: Initially there was problem with the F to C conversion; However it was fixed in V3.05 (dated 08/31/11).		10	12/27/10	SFSC	SCA	SFSC	1
17	04_36p	**Celsius_Dewpoint**		10	12/22/10 12/29/10	SFSC	SCA ST1	SFSC	1
18	04_37p	**Farenheit_Dewpoint** UPDATE: Initially there was problem with the F to C conversion; However it was fixed in V3.05 (dated 08/31/11).		10	12/22/10 12/28/10	SFSC	SCA ST1	SFSC	1
19	04_39p	**Wind Remark/REPRO**	ASENSE	60	02/02/11	SFSC	SCA	Joe	1
20	04_40p	**Wind Edit Data Validation**		30	12/28/10 01/04/11	SFSC	SCA ST1	SFSC	1
21	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	120	03/11	SFSC	ST0	SFSC	1
22	03_01	**SPECI Generation** during hourly edit time and during edit time of another SPECI.	Either	45	12/28/10 12/23/10	SFSC	SCA ST1	SFSC	1
23	03_07	**Editing Present Weather during hourly**	Either	30	12/21/10	SFSC	ST1	SFSC	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
24	04_27p	**Ceiling Special (Falling Below Threshold)**	Either	30	01/03/11 01/03/11	SFSC	SCA ST1	SFSC	1
25	04_31p	**Visibility Special (Falling Below Threshold)**	Either	60	01/03/11 01/03/11	SFSC	SCA ST1	SFSC	1
26	04_33p	**Present Weather Edit/Augment Test Procedure**	Either	90	12/29/10 01/05/11	SFSC	SCA ST1	SFSC	1
27	14_02p	**15-Min PX Counter Verification**	ASENSE	45	03/31/11 12/21/10	SFSC	SCA ST1	SFSC	1
28	14_05p	**Obstruction to Vision Procedure -** Tests the generation of HZ, BR, FG, and FZDZ.		10	12/22/10 01/05/11	SFSC	SCA ST1	SFSC	1
29	14_06p	**PWINO, FZRANO, TSNO, AND PNO** Special Notice Remarks		15	01/19/11	SFSC	ST0	SFSC	1
30	11_06	**Tornado Hot Key** - Tests generation of tornado through different methods and combinations.	Either	20	12/27/10	SFSC	SCA	SFSC	1
31	02_10	**Review-Daily (REVUE-DAILY) and Review-Month (REVUE-MONTH) -** The REVUE-DAILY and REVUE-MONTH functions allow the observer to review, edit, and augment the daily and monthly summary products. These products will then be encoded into messages.	Either	60	01/03/11 01/03/11	SFSC	SCA ST1	SFSC	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
32	02_14	**Review-Sensor** - This procedure tests the REVUE-SENSR function is available all users except the Air Traffic Controller (ATC). The REVUE-SENSR function enables the user to view the 12 hour archive of raw sensor data, the last 10 minutes of algorithm processed sensor data, and sensor status information such as turning report processing on or off and whether the sensor is in automated or manual mode.	Either	15	12/23/10 12/28/10	SFSC	SCA ST1	SFSC	1
33	02_15	**Review SYSLOG** - This procedure tests the ASOS System Logging capability.	Either	15	12/21/10	SFSC	ST1	SFSC	1
34	02_16	**COMLG Function Verification**	Either	15	12/20/10	SFSC	ST1	SFSC	1
35	02_17	**TWR Function Verification**	Either	15	12/28/10 12/29/10	SFSC	SCA ST1	SFSC	1
36	02_18	**SIGN ON/OFF Function Verification**	Either	15	12/27/10 12/28/10	SFSC	SCA ST1	SFSC	1
37	02_19	**EDIT Function Verification**	Either	30	12/28/10	SFSC	ST1	SFSC	1
38	03_16	**Accumulated Precipitation Remark -** This procedure verifies the Hourly Precipitation Amount (Prrrr) is displayed correctly on the one-minute page (REMARKS field) and that it gets reset properly after the observation has been transmitted.	ASENSE	30	02/07/11	WSH	SP1	Joe	1
39	04_28p	**CEILING SPECI (Rising to Equal/Above Threshold)**	Either	90	01/04/11 01/04/11	SFSC	SCA ST1	SFSC	1
40	04_29p	**LAYER SPECI (Entered/Removed Below Threshold)**	Either	45	12/29/10 01/05/10	SFSC	SCA ST1	SFSC	1
41	04_30p	**VIS Data Validation**	Either	25	12/22/10 01/04/11	SFSC	SCA ST1	SFSC	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
42	04_32p	**VIS SPECIAL (Rising to Equal/Above Threshold)**	Either	60	01/04/11 01/04/11	SFSC	SCA ST1	SFSC	1
43	04_41p	**Altimeter Edit Data Validation**	Either	30	12/29/10 12/28/10 01/05/11	SFSC SFSC WSH	SCA ST1 SP1	SFSC SFSC Khien	1
44	04_42p	**SKY Augment Edit Log Entries**	Either	90	01/14/11	SFSC	ST0	SFSC	1
45	06_01	**REVUE SITE PHYS Screen Verification**	Either	20	02/03/11	SFSC	SCA	SFSC	1
46	06_03	**REVUE SITE CRIT SPECIAL Screen Verification**	Either	30	02/07/11	WSH	SP1	Joe	1
47	06_05	**REVUE SITE CRIT LOCAL Screen Verification**	Either	30	02/07/11	WSH	SP1	Joe	1
48	06_06	**REVUE SITE CRIT SHEF Screen Verification**	Either	30	02/07/11	WSH	SP1	Joe	1
49	06_07	**REVUE SITE CONFG EXTRN Screen Verification**	Either	30	02/07/11	WSH	SP1	Joe	1
50	06_13	**REVUE RPT 5MIN Screen Verification**	Either	20	12/28/10	SFSC	ST1	SFSC	1
51	06_14	**REVUE RPT Screen Verification**	Either	15	02/02/11	SFSC	SCA	Joe	1
52	06_15	**REVUE RPT OBS Screen Verification**	Either	30	02/02/11	SFSC	ST0/1	Joe	1
53	06_17	**REVUE RPT 5-MIN REV2H Screen Verification**	Either	15	02/02/11	SFSC	SCA	Joe	1
54	06_19	**EDIT Screen Verification**	Either	15	12/22/10 12/20/10	SFSC	SCA ST1	SFSC	1
55	06_21	**EDIT REM Screen Verification**	Either	30	02/02/11	SFSC	SCA	Joe	1
56	07_01	**DCM**			04/13/11	SFSC	ST0	SFSC	1
57	08_01	**Vocabulary_Verification**		60		SFSC	ST1	SFSC	1
58	08_02	**Met_Disc_Voicing**			02/01/11	WSH	SP1	Joe	1
59	08_03	**Visibility_Voicing**			02/01/11	WSH	SP1	Joe	1
60	08_04	**Voicing_of_Ceiling**			02/08/11	WSH	SP1	Joe	1
61	08_05	**ATIS**			04/05/11	WSH	SP1	Khien	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
62	09_01	**GENOB Function Verification**	Either	90	12/29/10 01/05/11	SFSC	SCA ST1	SFSC	1
63	09_02	**GENOB Present Weather BEGIN/END Times**	Either	30	02/02/11	SFSC	SCA	Joe	1
64	10_01	**HOT KEY User Verification**	Either	15	02/02/11	SFSC	SCA	Joe	1
65	10_02	**HOT KEY Access Restriction Verification**	Either	15	02/02/11	SFSC	SCA	Joe	1
66	10_03	**TORNADO HOT KEY Verification**	Either	45	02/01/11	SFSC	SCA	Joe	1
67	10_04	**THUNDERSTORM HOT KEY Verification**	Either	90	02/02/11	SFSC	SCA	Joe	1
68	10_05	**HAIL HOT KEY Verification**	Either	90	02/03/11	SFSC	SCA	Joe	1
69	10_06	**VIRGA HOT KEY Verification**	Either	30	02/03/11	SFSC	SCA	Joe	1
70	10_07	**VOLCANIC ASH HOT KEY Verification (different combinations)**	ASENSE	60	02/03/11	SFSC	SCA	Joe	1
71	11_01	**FC Augmented Into Present Weather**	Either	10	12/23/10 12/21/10	SFSC	SCA ST1	SFSC	1
72	11_02	**+FC Augmented into Present Weather**	Either	30	12/28/10 01/05/11	SFSC	SCA ST1	SFSC	1
73	11_03	**GENOB Funnel Cloud**	Either	15	02/02/11	SFSC	SCA	Joe	1
74	11_04	**GENOB Tornado**	Either	20	02/03/11	SFSC	ST0/1	Joe	1
75	11_05	**GENOB Spout**	Either	20	12/23/10 02/04/11	SFSC	SCA SCA	SFSC Joe	1
76	11_07	**VOLCANIC ASH HOT KEY Verification**	Either	10	02/03/11	SFSC	SCA	Joe	1
77	11_09	**VIRGA HOT KEY**	Either	15	02/03/11	SFSC	SCA	Joe	1
78	11_10	**THUNDERSTORM HOT KEY**	Either	15	02/02/11	SFSC	SCA	Joe	1
79	13_06p	**SKY SPECIALS Checkout**	Either	30	12/27/10 12/21/10	SFSC	SCA ST1	SFSC	1
80	14_01p	**PRESENT WEATHER Identifiers/Remarks Verifications**	Either	150	03/09/11	WSH	SP1	Joe	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
81	14_03p	**FROZEN PRECIPITATION Combination Verification**	Either	120	02/22/11	SFSC	ST1	JF	1
82	14_07p	**SNOW INTENSITY Verification**	Either	90	02/16/11	WSH	SP1	Joe	1
83	14_08p	**SQUALL SPECIAL Verification**	Either	15	12/23/10 12/21/10	SFSC	SCA ST1	SFSC	1
84	14_09p	**FZRA_Intensity_Change_Specials**			02/17/11	SFSC	ST1	Joe	1
85	14_10p	**Update_of_Daily_Summary**			03/15/11	WSH	SP1	Joe	1
86	14_11p	**Gen_of_SHEFs_and_Precipitaion_Remarks**			03/09/11	WSH	SP1	Joe	1
87	14_12p	**Present_Weather_Freezing_rain**			02/16/11	WSH	SP1	Joe	1
88	14_13p	**PWX_and_Obstruction_to_Vision**			01/19/11	SFSC	ST0	SFSC	1
89	14_14p	**PWX_Encoding** UPDATE: More time needed to determine if "+FZRASN SQ" Is actually preferred. Closed 03/14/11		60	12/28/10 12/21/10	SFSC	SCA ST1	SFSC	1
90	14_15p	**Blowing_Snow_Algorithm**			03/03/11	SFSC	ST0	Joe	1
91	20_09	**WSP Interface Test**	ASENSE	60	02/24/11	FAA	ST0	FAA	1
92	20_10	**Verification of ADAS 1-minute Data Message for IFW, DTS1, AWPAG**	ASENSE	60	03/09/11	SFSC	ST1	Khien	1
93	20_6	**Navy ATC Interface Test -** Checks ASOS/Navy ATC interface for proper output to the ATC monitor.	Either	60	02/16/11	SFSC	ST0	SFSC	1
94	20_3	**ACE Interface Test** - Checks ASOS ACE interface for proper output to the ACE simulator	Either		03/08/11 03/17/11	SFSC	ST0	Khien SFSC	1

#	TEST #	Test Description	Scenario Either ASENSE or LIVE Sensor	Duration In Minutes	Date	Site	System	Tester	Pass?
95	20_1	**ADAS/ALDARS Interface to ASOS Test** - Checks ASOS response to ALDARS data.	Either		03/08/11	SFSC	ST1	Khien	1
96	20_2	**NGRVR Testing -**Verifies edited and automated RVR data, encoding in METAR/SPECIs, SPECI generation.	ASENSE	180	03/04/11	SFSC	ST0	Joe	1
97	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".	Either	15	02/15/11	SFSC	ST0	SFSC	1
99	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.	Either	20		HQ	SP1	Khien Harry	1
TOTAL									**98**

ASOS V3.05 SPECIFIC TESTS CHECKLIST
Verification of Old and Recent fixes

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
PART I - Verification of Software Security Features (FAT V1.3, Dated 02/25/10, for ASOS V3.03)								
1	5.5.1	Login using Default Password to verify Enc/Dec logic is working			11/17/10 01/21/11	SCA ST0	SFSC	1
2	5.5.2	Technician Logged out after AOMC download			11/17/10 01/18/11	SCA ST0	SFSC	1
3	5.5.3	Encryption of Password and Auto Upload after First Deployment			11/17/10	SCA ST0	SFSC	1
4	5.5.4	Download of Encrypted Password and SYSMGR Logged at the time of VOICE/PASSW download			11/17/10 01/21/11	SCA ST0	SFSC	1
5	5.5.5	Operation after downloading Encrypted Group, Critical Region Password, and Remote Access Code			11/17/10 01/12/11	SCA ST0	SFSC	1
6	5.5.9	Technician Password Change			11/17/10 01/12/11	SCA ST0	SFSC	1
7	5.5.12	Remote Access Code Change			11/17/10 01/11/11	SCA ST0	SFSC	1
8	5.5.13	Critical Region Password Change			11/17/10 01/13/10	SCA ST0	SFSC	1
9	7.3.3	Remote Login as SYSMGR changes Elevation with Correct Password			11/17/10 01/12/11	SCA ST0	SFSC	1
10	8.3.1	Remote or Local Intrusion attempt			11/17/10 01/13/11	SCA ST0	SFSC	1
11	8.3.2	Password Expiration			11/17/10 01/13/11	SCA ST0	SFSC	1
12	8.3.4	Denial of Service			11/17/10 01/12/11	SCA ST0	SFSC	1
13	8.3.5	“DATE” key Audit Log Screen			11/17/10 01/12/11	SCA ST0	SFSC	1
14	8.3.7	Audit log DCM Download with Correct SYSMGR Password			11/17/10 01/12/11	SCA ST0	SFSC	1
15	8.3.9	Audit log AOMC Upload with Response “Y”			11/17/10 01/12/11	SCA ST0	SFSC	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
PART II - Verification of Recent fixes								
16	TTR232	Incorrect EDITLOG entries	Regression Test 4_42	120	01/13/11	ST0	SFSC	1
17	TTR233	PNO remark lingers on	Regression Test 14_06	60	01/19/11	ST0	SFSC	1
18	TTR234	Incorrect coding of present weather	Regression Test 14_13	300	1/19/11	ST0	SFSC	1
19	TTR236	Monthly Summary (MSM) missing	Regression Test 02_10	60	01/03/11	SCA	SFSC	1
20	TTR237	Incorrect AMR report and I-group values	Specific Test S01164 #5		**4/20/11**	ST0	SFSC	1
21	TTR238	Incorrect Freezing rain sensor status	Specific Test ECP703		01/14/11	SP1	Joe	1
22	TTR240	No freezing rain sensor calibration message	Specific Test S01055 #9 **Completed * RETEST***		4/5/11	ST0	SFSC	1
23	TTR241	Freezing rain sensor calibration numbers not maintained for 31 days	Specific Test S01055 #10 * RETEST*		**4/5/11**	ST0	SFSC	1
PART III - Verification of Old Fixes								
24	OTR1001	Verification of fix for Invalid Display FZRA		60	01/13/11	SP1	Joe	1
25	OTR1002	Verification of fix for Invalid Edit log entries			01/13/11	SP1	Joe	1
26	OTR1004	Verification of fix for PEAK WIND REMARK not encoded			04/20/11	ST0	Khien and Jen	1
27	OTR1012	Verification of fix for EDIT LOG not record aborted entries correctly		10	01/13/11	SP1	Joe	1
28	OTR1014	Verification of fix for Incorrect rounding of Monthly Precip.		30	01/13/11	SP1	Joe	1
29	OTR1016	Verification of fix for Present Weather field not updated correctly		30	01/14/11	SP1	Joe	1
30	OTR1022	Verification of fix for Incorrect deletion of PL from PWX		30	01/14/11	SP1	Joe	1
31	OTR1047	Verification of fix for Incorrect Function Present Weather		20	01/14/11	SP1	Joe	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
32	OTR1057	Verification of fix for OTR1057 Incorrect ending date and Time for Monthly Summary Product		300	01/21/11	SP1	Joe	1
33	S00703	Software Supports for Additional ASOSs - Proper Encoding of AO1 and AO2 in the METAR remarks		180	01/14/11	SP1	Joe	1
34	S00704	Improve Present Weather Quality Control Logic		30	01/14/11	SP1	Joe	1
35	S00705	Transmit Special any Time			01/11/11	ST0	Khien	1
36	S00706	Add Precipitation Accumulation Remark in all 5-Minute Observations when Precipitation is Occurring			03/02/11	ST0	Joe	1
37	S00707	Modify Daily Summary Product Weather Codes			03/16/11	ST1	Joe	1
38	S00719	Precipitation BEGIN/END Remarks			02/09/11	ST0	SFSC	1
39	S00786	Eliminate Possible CLR AUTO ENTRY Before Augmented Entry in SKY Field			02/10/11 02/09/11	ST0 SP1	SFSC Joe	1
40	S00788	Remove Additive Data From Specials Transmitted during HOURLY EDIT Time			04/11/11	SP1	Khien	1
41	S00789	Generate Special for BEGIN/END/CHANGE of Intensity of Ice Pellets			01/21/11	SP1	Joe	1
42	S00790	Change Order of Encoded Remarks for Beginning and Ending Times of Thunderstorms			01/24/11	ST0	SFSC	1
43	S00791	Displaying and Voicing all Values of Density Altitude			01/31/11	ST0	SFSC	1
44	S00815	Separate Report Processing Control for Each Sensor			01/24/11	SP1	Joe	1
45	S00830	Report Multiple “FEW” Layers in SKY Field			02/03/11	ST0	SFSC	1
46	S00836	QC Error Messages for Dew Point with Missing Ambient Temperature			02/03/11	ST0	SFSC	1
47	S00837	Revise VDU Display Format for TEMP/DEWPOINT			02/01/11	ST0	SFSC	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
48	S00847	Compute Minutes of Sun at Latitudes Greater than 60 Degrees			04/11/11	SP1	Khien	1
49	S00874	Display Last Transmitted METAR/SPECI Report			01/24/11	SP1	Joe	1
50	S00914	Allow Manual Entry of “000" in the SKY CONDITION Field		5	01/19/11	ST0	SFSC	1
51	S00983	Cursor Control during CORRECTION EDIT		30	01/19/11	ST0	SFSC	1
52	S01005	Negative Pressure Reduction Constants			02/25/11	ST0	SFSC	1
53	S01016	Modification to Wind Data Quality Algorithm. Update: Joe F. ran and it failed as TTR #275; However, the TTR was later rescinded due to algorithm change.			3/28/11	ST0	SFSC	1
54	S01018	Connect WSP and Report 10-second Wind	Done in 20.09			ST0	Khien	1
55	S01055	Adaptive Baseline Frequency for Freeing Rain Sensor			4/7/11	ST0	SFSC	1
56	S01078	Include TEMP/DEWPOINT Remark in all Observations			01/26/11 01/27/11	ST0 SP1	SFSC Joe	1
57	S01105	Change Daily Summary Product Sky Cover Labels		10	01/13/11	SP1	Joe	1
58	S01106	Improve Change of Time SYSLOG Entry		10	01/09/11	ST0	SFSC	1
59	S01110A S01110B	Validation of PRECIP ACCUM for Tipping Bucket Validation of PRECIP ACCUM for AWPAG			3/17/11	ST0	SFSC	1
60	S01113	Add “LST” Label to Date Field on the PHYSICAL and OID SCREENS		10	01/13/11	SP1	Joe	1
61	S01125	Eliminate Unnecessary OID Function Calls		20	01/19/11	SP1	Khien/ Hak	1
62	S01126	Add Ice ACCRETION REMARK to METAR/SPECI Reports			01/24/11	SP1	Joe	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
63	S01133	Provide TECHNICIAN AUTHORIZATION to set DSM/MSM TRANSMIT TIMES		10	01/13/11	SP1	Joe	1
64	S01152	Correct Transmission Logic for DSM/MSM “COR”			04/20/11	ST1	SFSC	1
65	S01164	Add ICE ACCRETION to AMR for DIRECT COMMAND MODE (DCM) Access			4/20/11	ST0	Khien	1
66	AA618	Generate GTA Tone at TECH LEVEL			03/31/11	SP1	Khien	1
67	AB419	Air Force Modifications			4/12/11	SP1	Joe	1
68	AC919	Removing IFW Path Errors from SYSLOG			02/01/11	ST0	Khien	1
69	S00898	Increase the size of the cloud statistic archive	Dialed in and examined the archived for 96 samples each system		03/23/11	ST0 ST1 SCA	Khien	1
70	S00994	Modify precip accum algorithm to ensure trace reporting			02/03/11	SP1	Joe	1
71	S01107	Prevent use of sensor data when report processing is off			04/22/11	ST0	Joe	1
72	S01109	Store data that causes a data quality in brackets			03/30/11	SP1	Joe	1
73	S01124	Increase local sensor ports from 3 to 6 to support testing			01/25/11	ST0	Khien	1
74	AA292	Change thunderstorm reporting threshold for SPECI reports			02/08/11	ST0	SFSC	1
75	AA713	Modify sky condition algorithm			03/16/11 04/12/11	ST0 SP1	SFSC Joe	1
76	AA824	Store software versions for AOMC uploads			04/13/11	ST0	Joe Khien	1
77	10395	Redesign of tasking and inter-task communications. This involves a series of regression tests to be performed.	Reviewed all related tests performed.		03/23/11	ST0, SP1, SCA	Khien	1
78	10055	Change to RVR reporting to comply with FAAO 7900.5			02/10/11	ST0	SFSC	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
79	10325	Expand operational periods for freezing rain sensor			03/02/11	ST0	Jen Khien	1
80	10601	Maintenance page IFW path error count			02/28/11	ST0	SFSC	1
81	11443	IFW data quality control (QC) algorithm	Case1-OK Case 2-Skip Case 3-RC12446 Case 5-empty Case 6-OK			ST0	SFSC	1
82	1011	Temperature rounding inconsistencies			04/05/11	SP1	Joe	1
83	1021	Missing EDIT log entries			1/25/11	ST0	SFSC	1
84	1033	ARCH2 function not archiving requested 5-minute observations			01/25/11	SP1	Joe	1
85	1040	Correction to visibility computations			02/09/11	ST0	SFSC	1
86	1041	Pressure parameters reported using only one pressure sensor			02/08/11	ST0	SFSC	1
87	1044	Correction to funnel cloud logic			01/25/11	ST0	SFSC	1
88	1054	Rounding negative temperatures			03/14/11	ST0	SFSC	1
89	1056	Inaccurate data basing of GTA frequencies			03/30/11	SP1	Khien	1
90	1056B	Precip Accum data quality			03/14/11	SP1	Joe	1
91	1061	Visibility missing from METAR/SPECI reports			02/07/11	ST0	SFSC	1
92	1070	Invalid wind information in daily summary product			03/01/11	ST0	SFSC	1
93	1074	ASOS ACU processor status nomenclature	Tested in 1011			ST0	SFSC	1
94	1075	Warm boot errors on Navy ASOS systems			03/30/11	SP1	Khien	1
95	1079	IFW wind speed data not rounding correctly			04/05/11	ST0	SFSC	1
96	1087	False UPS DCP Status Indicator			3/24/11	ST0	SFSC	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
97	1013	Missing Edit Log entry for manual SPECI reports (OTR1013)			03/28/11	SP1	Joe	1
							TOTAL	**97**

ASOS On-Line Datasets Checklist
By Chet Schmitt (OPS22)

Data Set Cases	Test Description	Notes	Duration In Minutes	Date	Site	Tester	Pass ?
DS1	*IFW QC Algorithm datasets*				SP1	Khien	1
1.1	Bird case 1			2/15/11		Khien	0
1.2	Bird case 3			2/15/11		Khien	0
1.3	Bird case 4			2/15/11		Khien	0
1.4	Bird case 6			2/15/11		Khien	0
1.5	Bird case 12			2/16/11		Khien	0
1.6	Ice case			2/16/11		Khien	0
1.7	Breakpoint			2/16/11		Khien	0
1.8	QC algorithm check			2/16/11		Khien	0
1.9	Wind char reporting			2/16/11		Khien	0
1.10	Wind char report Verification 1			3/17/11		Aaron	0
1.11	Wind char report Verification 2			3/23/11		Aaron	0
DS2	*Ice Accretion datasets*				SP1	Aaron	1
2.1	Philips SD (PHP)			1/25/11			0
2.2	Hobart OK (HBR)			1/26/11			0
2.3	Dulles VA (IAD)			2/25/11			0
2.4	Broken Bow NE (BBW)			2/25/11			0
DS3	*Sky Reporting datasets*				SP1		1
3.1	DCP			3/14/11		Aaron	0
3.2	SCA			4/12/11		Joe	0
DS4	*"Weather Event" datasets*				SP1	Aaron	1
4.1	Mixed Precip			2/23/11	SP1	Aaron	0
4.2	Snow Storm			2/7/11			0
DS5	*Visibility datasets*				SP1	Aaron	1
5.1	Single sensor			2/3/11			0
5.2	Met-Discon			2/4/11			0
DS6	*Precip Verification datasets*			2/25/11	SP1	Aaron	1
DS7	*Temperature/Dewpoint datasets*			1/28/11	SP1	Aaron	1
DS8	*Pressure datasets*			1/05/11	SP1	Khien	1
Total test cases completed							**8**

ATTACHMENT 2 – FIRST RETEST CHECKLIST

ASOS V3.05 REGRESSION TESTS CHECKLIST

Note: Completed Procedure is denoted as 1
Not yet completed is denoted as 0

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site	System	Tester	Pass?
1	**01_01**	**Pre-Installation Routines**		240	05/19/11	SFSC	ST0	Khien	1
2	**04_35p**	**TTR#252** Farenheit_Temp UPDATE: Failed TTR#285 written. Fixed in V3.05(dated 08/31/11).		20	05/23/11	SFSC	ST0	Joe	1
3	**04_37p**	**TTR#252** Farenheit_Dewpoint UPDATE: Failed TTR#285 written. Fixed in V3.05(dated 08/31/11).		20	05/23/11	SFSC	ST0	Joe	1
4	**02_01**	**UI_Help**	TTR#284 written. Will be fixed in a future major release.	120	05/23/11	SFSC	ST0	Joe	1
								TOTAL	**4**

ASOS V3.05 SPECIFIC TESTS CHECKLIST
Verification of new Capabilities and Recent fixes

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
PART I - Verification of Software Security Features (Security_Test_Procedure) Fifteen selected Test cases will be conducted								
1	Test Case 5.5.1	Login using Default Password to verify Enc/Dec logic is working		30	05/19/11	ST0	SFSC	1
2	Test Case 5.5.2	Technician Logged out after AOMC download		30	05/19/11	ST0	SFSC	1
3	Test Case 5.5.3	Encryption of Password and Auto Upload after First Deployment		30	05/19/11	ST0	SFSC	1
4	Test Case 5.5.4	Download of Encrypted Password and SYSMGR Logged at the time of VOICE/PASSW download		30	05/19/11	ST0	SFSC	1
5	Test Case 5.5.5	Operation after downloading Encrypted Group, Critical Region Password, and Remote Access Code		30	05/25/11	ST0	SFSC	1
6	Test Case 5.5.9	Technician Password Change		30	05/25/11	ST0	SFSC	1
7	Test Case 5.5.12	Remote Access Code Change		30	05/25/11	ST0	SFSC	1
8	Test Case 5.5.13	Critical Region Password Change		30	05/25/11	ST0	SFSC	1
9	Test Case 7.3.3	Remote Login as SYSMGR changes Elevation with Correct Password		30	05/25/11	ST0	SFSC	1
10	Test Case 8.3.1	Remote or Local Intrusion attempt		30	05/25/11	ST0	SFSC	1
11	Test Case 8.3.2	Password Expiration		30	05/25/11	ST0	SFSC	1
12	Test Case 8.3.4	Denial of Service		30	05/25/11	ST0	SFSC	1
13	Test Case 8.3.5	“DATE” key Audit Log Screen		30	05/25/11	ST0	SFSC	1
14	Test Case 8.3.7	Audit log DCM Download with Correct SYSMGR Password		30	05/25/11	ST0	SFSC	1
15	Test Case 8.3.9	Audit log AOMC Upload with Response “Y”		30	05/25/11	ST0	SFSC	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
								0
16	S01055	Adaptive Baseline Frequency for Freeing Rain Sensor		1200		ST0	SFSC	1
17	11443b	IFW data quality control (QC) algorithm			6/3/11	SP1	Aaron	1
18	S01152	Correct Transmission Logic for DSM/MSM “COR”			05/19/11	SP1	Joe	1
19	S01107	Prevent use of sensor data when report processing is off		480		ST0	SFSC	1
20	1041	Pressure parameters reported using only one pressure sensor		240	05/26/11	ST0	SFSC	1
21	S01164A	TTR#273 Ice Accretion Test – Manual2	Failed at Steps 8 and 10 running the procedure from cold boot two times.	240	05/26/11	ST1	Joe	1
22	S01164B	TTR#273 Ice Accretion – Trace	Failed. Email sent describing failure, archive collected.	240	05/31/11	ST1	Joe	1
23	S01164C	TTR#273 Ice Accretion in ASOS AMR 13 Tests #1-13		6240	06/23/11	SP1	Khien	1
24	TTR247	TTR#247 Edit Log unavailable for viewing by ATC		20	05/19/11	SP1	Joe	1
25	TTR248	TTR#248 Software Button ‘9’ incorrectly programmed.		20	05/19/11	SP1	Joe	1
26	TTR266	TTR#266 Extra words (UIU) after REVUE-LOGS 0		20	05/19/11	SP1	Joe	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
27	RC#12450	On Sensor Report Processing Page, move pressure sensor prompt to bottom and move ALDARS prompt to top.	TTR #287 written for CHI		06/07/11	ST0	Joe	1
28	TTR272	TTR#272 AOMC version of the Site Physical Page is not being updated to reflect the uploaded state of the Ice Remarks to ON.		90	05/23/11	SP1	Aaron	1
29	1501	TTR #274 Avg WS on Daily Summary Page not representative	Questions sent via email 6/1/11			ST0	SFSC	1
30	ECP S00788	TTR#276 Remove Additive Data from Specials Transmitted during HOURLY EDIT Time		360	05/25/11	ST1	Joe	1
31	1079	IFW Wind Speed Data Not Rounding Correctly			05/26/11	ST0	SFSC	1
32	TTR 283	Duplicate CHI Met Disc Remark on One Minute Screen		300	6/1/11	ST1	Joe	1
							TOTAL	**32**

ASOS On-Line Datasets Checklist
By Chet Schmitt (OPS22)

Data Set Cases	Test Description	Notes	Duration In Minutes	Date	Site	Tester	Pass ?
DS2	*Ice Accretion datasets*	**TTR#273**			SP1	Aaron	1
2.1	Philips SD (PHP)		Overnight	05/23-24	SP1	A	1
2.2	Hobart OK (HBR)		Overnight	05/24-25	SP1	A	1
2.3	Dulles VA (IAD)		Overnight	05/25-26	SP1	A	1
2.4	Broken Bow NE (BBW)		Overnight	05/26-27	SP1	A	1
Total test cases completed							**4**

ATTACHMENT 3 – SECOND RETEST CHECKLIST

ASOS V3.05 REGRESSION TESTS CHECKLIST
Note: Completed Procedure is denoted as 1
Not yet completed is denoted as 0

Completed procedures but failed is highlighted red

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site	System	Tester	Pass?
1	**01_01**	Pre-Installation Routines		240	9/15/11	SFSC	ST0	Katie	1
2	**02_01**	UI_Help	Redlined	120	9/12/11	SFSC	ST0	Jen	1
3	**04_35p**	Farenheit_Temp	Redlined	20	9/6/11	SFSC	ST1	Jen	1
4	**04_37p**	Fahrenheit_Dewpoint	Redlined	20	9/6/11	SFSC	ST1	Jen	1
5	**285**	Temperature/Dewpoint Rounding Verification	Redlined	30	9/7/11	SFSC	ST1	Jen	1
TOTAL									**5**

ASOS V3.05 SPECIFIC TESTS CHECKLIST
Verification of new Capabilities and Recent fixes

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
PART II - Verification of Recent fixes								
1	**S01164A**	**TTR#286, 288, 289** **Ice Accretion Test – Manual2**		**240**	**09/22/11**	**ST1**	**Joe**	**1**
2	**S01164B**	**TTR#286, 288, 289** **Ice Accretion – Trace**		**240**	**09/22/11**	**ST0**	**Joe**	**1**
3	**S01164C**	**TTR#286, 288, 289** Ice Accretion in ASOS AMR 13 Tests #1-13	Completed: **1,2,3,4,5,6,7,8,9,10,11,12,13** **See note at end of table for comment on these tests**	6240	09/22/11	SP1 ST0 ST1	Aaron/Chet Joe@SFSC	**1**
4	RC#12450	On Sensor Report Processing Page, move pressure sensor prompt to bottom and move ALDARS prompt to top.	Redlined	240	9/9/11	ST0	Jen	1

#	TEST #	Test Description	Notes	Duration In Minutes	Date	Site/ System	Tester	Pass ?
							TOTAL	4 (3)

ASOS On-Line Datasets Checklist
By Chet Schmitt (OPS22) and Aaron Poyer (OPS24)

Data Set Cases	Test Description	Notes	Duration In Minutes	Date	Site	Tester	Pass ?
DS2	*Ice Accretion datasets*	TTR#286,288,289 (273-confirm)					
2.1	Philips SD (PHP)		Overnight	09/06/11	SP1	Chet/ Aaron	1
2.2	Hobart OK (HBR)		Overnight	09/08/11	SP1	Chet/ Aaron	1
2.3	Dulles VA (IAD)		Overnight	09/07/11	SP1	Aaron/ Chet	1
2.4	Broken Bow NE (BBW)		Overnight	09/09/11	SP1	Aaron/ Chet	1
2.6	Guadalupe Pass TX (GDP)	Differences noted Chet believes they are within range of acceptable	Daytime	09/12/11	SP1	Chet/ Aaron	1
DS1	*Ice Free Wind QC datasets*						
1.5	Bird Case #12		1.5hr	09/08/11	SP1	Chet/ Aaron	1
1.6	Ice Blockage Case		30min	09/08/11	SP1	Chet/ Aaron	1
1.7	Breakpoint Dataset		2hr	09/08/11	SP1	Chet/ Aaron	1
DS3	*Sky Reporting datasets*						
3.1	DCP	Redlined		09/14/11	ST0	Jen	1
3.2	SCA (CL31)			09/09/11	SP1	Chet/ Aaron	1
DS5	*Visibility datasets*						
5.1	Single sensor			09/12/11	SP1		1
5.2	Met-Discon			09/13/11	SP1		1
Total test cases completed							**12**