ASOS Test Review Board (ATRB) Meeting Minutes

Minutes: **ATRB Meeting**

Date: May 7, 2009

Attendees: Jerald Dinges - ATRB Chair, Joseph Fiore, Khien Nguyen, Harry Tran (NWS/OPS24)
Dave Mannarano - ATRB Member, Rick Parry, Chet Schmitt (NWS/OPS22)
Peggy Hoch (NWS/OPS23)
Joe Devost (NWS/OPS12))
Bing Huang - ATRB Member (ATO-T), Jerry Kranz (FAA contractor)
Ron Heatherdale – Alternate (U.S. Navy SPAWARSYSCEN, Charleston, SC)
Roy Rasmussen – ATRB Member (NCAR)
William "Mac" Lawrence – ATRB Member (USAF)
Kevin Conaty (AOMC)
Gregory Dalyai (W/OPS12)
John Monte (W/OST11)
Tom Townsend (NWS Alternate)

The ninth ASOS Test Review Board (ATRB) Meeting was held on May 7 at 10 AM EDT using "GOTOMEETING" web-based meeting software to display various documents and presentations that were discussed during the meeting. The audio part of the meeting was held by telephone conference. Representatives from all five groups comprising the ATRB were in attendance: The Department of Commerce (DOC) National Weather Service (NWS), the Department of Defense (DoD) U.S. Air Force and U.S. Navy, and the National Center for Atmospheric Research (NCAR) were present. The minutes, presentations, reports, and other important documents will be placed on the NWS/OPS24 website for access and review.

http://www.nws.noaa.gov/ops2/ops24/documents/atrb_docs.htm

The NWS National Weather Service Headquarters Office of Operational Systems (OOS), Field Systems Operations Center, Test and Evaluation Branch OPS24) convened and moderated the meeting. Highlights of the meeting were:

The first part of the meeting consisted of roll call and a review of the previous meeting's minutes (March 12 2009) and associated Action Items.

Action Item 7 from the November 14th ATRB meeting was "CLOSED." It was a duplicate of Action Item 2 from the October 9th ATRB meeting.

Action Item 1 from the February 5th ATRB meeting was "CLOSED ."

Action Items 1-5 from the October 9th ATRB meeting remain "OPEN."

Action Items 1, 3, and 4 from the March 12th ATRB meeting were "CLOSED."

Action Items 2 and 5 from the March 12th ATRB remain "OPEN."

The minutes from the March 12th ATRB meeting were ratified and will be placed in the above stated URL link to the NWS/OPS24 website. The current status of the "OPEN" action items through March 12 were as follows:

Action Item 1(10/9/08): (OPEN) John Monte (NWS/OST11) will perform a test of the bird abatement devices without the 4 short rod extensions at Sterling Field Support Center (SFSC), Sterling, VA before the ASOS CL31 Ceilometer Replacement OT&E and provide the test results to the ATRB.

STATUS: This action item will remain "OPEN," but not formally reported until test is completed in August 2009.

John reported preliminary evidence at SFSC suggests the bird abatement device might not be needed. However, John stressed the test needs to be completed before a final decision is made. John also reported the bird activity at SFSC has not gone up significantly yet. He expects more activity during the spring and summer. In addition, John also reported if the bird abatement is needed, there is a "plastic mushroom-like cap" that could be put on the ends of the spikes(4-short rod extensions) to protect the Electronic Technicians from injury.

Action Item 2 (10/9/08) (OPEN): Assigned to John Monte (NWS/OST11). John will submit a Test RC for the AWPAG wind screen to the ASOS Configuration Control Board as a prerequisite for the operational testing of wind screens. UPDATE: There will be no OT&E conducted for the new AWPAG wind screen. There will be an ST to evaluate the Mod Note and installation of the new wind screen at SFSC and IAD. John Monte will update the RC to reflect this change and he will submit an RC for deployment if the ST is successful.

STATUS: No Change

Action Item 3 (10/9/08) (OPEN): Assigned to John Monte (NWS/OST11). John Monte will order the production units for the altered wind screens from OTT for placement in NLSC.

STATUS: This action item will remain "OPEN" but will not be reported until July 2009 or until the production units are delivered, whichever comes first. A new action item [See below Action Item 1 (05/07/09)] related to this action item was generated at the ATRB meeting, and is listed at the end of this document.

Action Item 4 (10/9/08) (OPEN): Assigned to Greg Dalyai (NWS/OPS12). Greg will coordinate with Jerry Dinges (OPS24) on the delivery dates of the draft NWS Mod Notes required for the IFW Firmware V4.54 (Mod Note 85A) and the AWPAG alter wind screens (Mod Note 93). They will be needed for start of the System Tests.

STATUS: Mod Note #93 (AWPAG Wind Screens) was modified per changes obtained from installation at Sterling Field Support Center, Sterling, VA using a pre-production unit in December 2008. **However, the note will need to be revised based upon another installation at SFSC when production units are delivered this summer** prior to the final check by the WFO LWX ESA/ET using the LWX ASOS - **OPEN**. The ST team will provide any changes to Mod Note 94 to OPS12 for final revision after IFW 4.54 ST is completed. OPS24 will check to make sure that they provided comments on Mod Note 85A (**CLOSED**). (ST completed in early March 2009 and W/OPS24 provided W/OPS12 with comments to the draft Mod Note by e-mail 3/19/09.)

Action Item 5 (10/9/08) (OPEN): Assigned to David Mannarano (NWS/OPS22) will take the lead to ensure a policy decision is formally agreed on for threshold temperatures values for the AWPAG orifice heater turn-on and cut-off based on LogoSense V3.61 and the orifice heater controller firmware V2.1.

STATUS: Dave Mannarano reported there was a meeting with NWS/OPS22, SFSC, and NWS/OST11 to discuss this temperature threshold in mid-March 2009 at National Weather Service Headquarters (WSH). Dave reported OPS22 believes after a meteorological evaluation of Alaska region and upper mid-west region sites, they (W/OPS22) in coordination with W/OS7 and other components in the NWS Office of Climate, Water, Weather Services) are close to recommending a low temperature cut off threshold for turning off the AWPAG orifice heaters. Dave reported this decision would be made in a few weeks. John Monte stated his concern this decision (or lack of decision to date) would cause a delay in using one of the main advantages of the New heater controller firmware V2.1 (i.e., improves current problem of the heaters frequently cycling "on" and "off" for periods up to 30 minutes allowing accumulation of ice during moderate freezing rain events, even with ambient temperatures well above 18F) .

Action Item 7 (11/14/08) (CLOSED): Assigned to John Monte (W/OST11). John will update the test RC for the new AWPAG Wind Screen to reflect that there will be an ST but no OT&E, and he will submit an RC for deployment of the new AWPAG Wind Screen if the ST is successful.

STATUS: DELETE - Duplicate of Action Item 2 (10/9/08).

Action Item 1 (02/05/09) (CLOSED): Assigned to John Monte (OST11); At the request of ATRB member Roy Rasmussen (NCAR), John will contact Cold Bay, AK to inquire about the status of the AWPAG 8 Foot Alter Wind Screens performance during high winds at Cold Bay this winter and reported back to the ATRB. – COMPLETE.

STATUS: John Monte reported the NWS Alaskan Region representative indicated the new screens installed at Cold Bay and Bethel are holding up very well with no problems over the winter 0f 2008-2009. Roy Rasmussen agreed to close the Action Item but asked if John Monte could find out how high the winds were over the winter of 2008-2009 at Cold Bay and Bethel.

<u>Action Item 1 (CLOSED) (3/12/09)</u>: Assigned to OPS24. Joe Fiore will provide the ATRB with the latest MCE report after review by the MCE Data Analysis team. **- COMPLETE**.

STATUS: The MCE report was sent out for ATRB review on 3/18/09, and the final report for the MCE was sent out to the ATRB on 5/4/09. The Chair, ATRB signed the cover memorandum with the final report on 5/7/09. The results of the MCE were a key part of the decision to switch the CL31 to the operational ceilometer at the 16 OT&E sites with dual ceilometers.

<u>Action Item 2 (OPEN) (3/12/09)</u>: Assigned to OPS24. Khien will include a baseline procedure in the V3.01 ST Test Plan.

STATUS: The ST plan is currently being written and a baseline procedure will be included in the test plan and all ST test plans in the future.

<u>Action Item 3 (CLOSED) (3/12/09):</u> Assigned to FAA/ATO-T. Bing Huang will contact Jim Brand of the FAA Tech Center to see if the Mt. Holly (correction ACY – Atlantic City) ASOS was still needed for FAA Tech Center testing. - COMPLETE

STATUS: Bing Huang and Jerry Kranz agreed that since an FTI Comms line has been established between SFSC and the FAA Tech Center, the ACY ASOS was no longer needed for ST.

<u>Action Item 4 (CLOSED) (3/12/09):</u> Assigned to the FAA/ATO-T. Bing Huang will ask the FAA Test Center in Oklahoma City if they would be interested in participating in V3.01 ST. The FAA Test Center in Oklahoma City will not be participating in V3.01 ST. Jerry Dinges will confirm this decision. – COMPLETE

STATUS: Jerry Dinges found the e-mails (3/12/09) confirming Dennis Kamin, FAA NASEO, declined the offer to participate in the ASOS ACU V3.01 ST due to other commitments.

<u>Action Item 5 (OPEN) (3/12/09):</u> Assigned to USAF. Mac Lawrence will contact a USAF ASOS site in Florida to see if they would like to participate in V3.01 ST.

STATUS: Mac Lawrence contacted Hulbert Field, FL to inquire if they would like to participate in V3.01 ST. The USAF and the NWS (W/OPS12) are in the process of speaking with the Hulbert Field personal to determine what sensor configuration they have, if they have or need a new processor board, and if they have the man power to support ST.

Next, the ATRB ratified the previous minutes (03/12/09) - The ratified minutes will be placed under "Meeting Minutes" on OPS24 Webpage:

http://www.nws.noaa.gov/ops2/ops24/documents/atrb_docs.htm

The following Microsoft PowerPoint presentations were given by W/OPS24 and W/OPS23 staff on the status of ongoing FAT, ST, and OT&E activities related to ASOS. The list of presentations given are as follows:

A. Results of Further Tests Related to Test Trouble Report #210 – V2.79V and IFW V4.54

Khien Nguyen presented the test results to clarify the problem documented in TTR#210. The TTR identified a problem in V2.79V. The IFW V4.54 firmware was validated during ST to be fit for deployment. However, the ST TRG recommended IFW V4.54 not be deployed with V2.79V without the fix. Further testing results which Khien presented clarifies the problem in both the V2.79D and V2.79V loads. The fix was incorporated into V2.79X.

B. Results of Factory Acceptance Test for V2.79X –

Peggy Hoch summarized the FAT results. Joe Devost asked Peggy Hoch for a copy of the Request for Change (RC) for V4.54. However, the NWS believes this RC was already completed, and Joe does not need a separate RC written by OPS12. W/OPS23 delivered the Configuration Management Baseline firmware and documentation to W/OPS24 on 4/28/09.

C. ST Strategy for ASOS ACU V2.79X -

Khien Nguyen presented the ST strategy. During the presentation, the U.S. Navy SPAWARSYSCEN volunteered to participate in C2.79X ST. Khien Nguyen (W.OPS24) will send Wayne Knight and Ron Heatherdale V2.79X by e-mail, and then send a backup copy of V2.79X on CD by FedEx to the SPAWARSYSCEN in Charleston, S.C. The ST commenced at SFSC on May 1 with successful installation on ST1 and the new Single Cabinet ASOS. Khien reported that regression testing of all Test Trouble Reports generated with V2.79S,T, U, V, and X was successfully conducted May 5-6. Regression test of 30 some test procedures for the ceilometer are being conducted.

D. Results of Factory Acceptance Test for V3.01 –

Peggy Hoch presented a summary of the FAT results. Peggy thanked Chet Schmitt (W/OPS22) for his efforts in running data sets and being present for the IFW QC algorithm testing that was part of V3.01 FAT. W/OPS23 delivered the Configuration Management Baseline firmware and documentation to W/OPS24 on 4/28/09. The ST commenced at SFSC on May 1 with successful installation on ST0. While W/OPS24 is finishing the V3.01 ST plan for signature, W/OPS22 will use ST0 to run data sets of real-time meteorological weather events to validate the new Quality Control algorithm for the IFW sensor contained in V3.01.

E. Results of the ST for the ASOS VDU Logistics Replacement Using AXEL Thin

Client

Khien Nguyen presented the ST results with recommendation to proceed to OT&E based on test conducted at SFSC, Sterling, VA. During the presentation, W/OPS12 agreed to send 2 sets of line drivers (to boost the lines for "daisy chained" VDU's) to the U.S. Navy SPAWARSYSCEN, so they can run tests of this configuration to simulate daisy chained VDU's during the last part of ST. It was agreed that testing of these line drivers will not hold up commencement of the OT&E. The survey completed by the NWS ASOS focal points indicated only a few ASOSs have "daisy chain" configurations and with only 2 VDUs maximum.

F. Test Readiness Review to Commence ASOS OID/VDU Logistics Replacement Using AXEL Thin Client -

Joe Fiore, Test Director, presented the review for ATRB approval.

G. Update for the OT&E of the ASOS CL31 Ceilometer Replacement using ASOS ACU V2.79V firmware and DCP V2.0 EPROMS –
[20 minutes]
Joe Fiore, Test Director, presented an update of the OT&E (Phase I) with the results of the CL31/CT12K Meteorological Comparison Evaluation for ATRB recommendation to Chair, ACCB whether to switch the CL31 from a 'test" sensor to the "primary" sensor at the OT&E sites.

After the presentations were complete, the ATRB voted on and unanimously approved the following decisions:

Proceed with System Test (ST) of a new ASOS ACU test firmware V2.79X.

If V2.79X ST is successful at SFSC and at the U.S. Navy SPAWARSYSCEN, the ASOS ACU V2.79X will replace V2.79V firmware as the operational ASOS ACU firmware supporting the Vaisala CL31 ceilometer as the ASOS operational sensor. It will also be used in conjunction with the deployment of the IFW V4.54 firmware. Therefore, the ASOS CL31 OT&E will be extended 30 days after completion of the OT&E using ASOS ACU V2.79V at a subset of the 21 sites participating in the current OT&E.

If the ST for V2.79X fails due to a critical problem not also in V2.79V, the backup plan is to proceed with V2.79V in conjunction with the CL31 deployment as well as the IFW V4.54 deployment. However, OPS12 will issue a Technician TIP alerting all ASOS Electronic Technicians of a problem they might encounter using the TEST command on the maintenance page (i.e., "Infinite Loop" problem) when a thermistor fails in the IFW sensor. The tip will state the problem will clear when the bad IFW thermistor is replaced (i.e. replace the sensor "head").

Proceed with OT&E for the ASOS OID/Visual Display Unit (VDU) logistics replacement using the AXEL Thin Client.

The ATRB voted to proceed to OT&E pending completion of three pre-requisites:

1) successful completion of the thin client VDU ST at the U.S. Navy test ASOS site in Charleston, SC, (Note: The added request by OP12 to test new line drivers as potential solution to allow more than the current 2 VDU limitation for a "daisy chain" configuration will NOT be a requirement to finish before starting the OT&E).
2) When OPS12 confirms the OID thin clients (50) and the VDU thin clients (72) are in stock at NLSC; and,
3) When OPS12 confirms the thin client spares (one spare for each WFO participating in OT&E) are delivered to each WFO participating in OT&E. The "spare" consists of a thin client, one monitor, and one keyboard.

Proceed with switching the Vaisala CT12K operational ASOS ceilometer to the new Vaisala CL31 ceilometer as the primary sensor and making the CT12K the "test"sensor at the 16 Phase I OT&E sites.

A memorandum from the Chair, ASOS Test Review Board to the Chair, ASOS Configuration Control Board recommending the new Vaisala CL31 become the operational ceilometer at 16 OT&E ASOS sites was signed on Thursday, May 7 immediately after the ATRB unanimously voted to allow the change. The Chair, ACCB, signed his concurrence on the memorandum the same day.

The Office of Climate, Water, and Weather Services issued a Technical Implementation Notice TIN on the NWS Telecommunications Gateway, to the NWS and FAA user community as an official announcement of the switch on Friday, May 8. The TIN cited the ASOS for Hilo, HI (KITO) will be the first NWS/FAA ASOS to make the switch on Wednesday, May 13 at 2000 UTC. The Weather Forecast Office Honolulu, HI associated with the ITO ASOS will issue a local Public Notification Statement within 48-72 hours in advance of the switch. An added request is for any site using the temporary mount for the CL31, should make the CL31 operational for 10 minutes just to validate the tilt angle of the CL31 has not deviated significantly from the intended angle.

Also, the U.S. Navy SPAWARSYSCEN, Charleston, SC, announced its OT&E site, Beaufort, SC (KNBC) successfully switched to the new Vaisala CL31 ceilometer at 11 a.m. local time on Friday, May 8. The first surface observation to include sky condition information from the CL31 was successfully transmitted at 11:58 local time.

The remaining 14 OT&E sites now operating with their Vaisala CL31 ceilometer as a "test" sensor and the current operational Vaisala CT12K as the "primary' sensor will also remotely switch their ceilometers once their associated WFO issues a PNS to their local user community between May 13 – 22.

The following new action items were assigned during the May 7 ATRB meeting:

Action Item 1 (OPEN) (5/7/09): W/OPS22 will coordinate with OS and the field on the priority for deploying the new APWAG wind shields, and determine how many shields to deploy initially.

Action Item 2 (OPEN) (5/7/09): Khien Nguyen (W.OPS24) will send Wayne Knight and Ron Heatherdale V2.79X via email, and then send a backup copy of V2.79X on CD by FedEx to the SPAWARSYSCEN in Charleston, S.C.

Action Item 3 (OPEN) (5/7/09): W/OPS12 will send 2 sets of line drivers (to boost the lines for daisy chained VDU's) to the U.S. Navy SPAWARSYSCEN, so they can run tests of this configuration to simulate daisy chained VDU's during the last part of ST.

Action Item 4 (OPEN) (5/7/09): John Monte will find out from NWS Alaska Region Headquarters what were the strongest winds reported at Cold Bay and Bethel, AK after the new AWAG wind screen was installed.

Action 5 (OPEN) (5/7/09): Joseph Devost will confirm if a Test RC was generated for IFW V4.54 firmware.

Action 6 (OPEN) (5/7/09): Greg Dalyai will confirm when the NLSC stocking is completed for the AXEL thin client to replace the ASOS OID/VDU and when the on-site spares are delivered to the WFOs supporting the installations

Jerry Dinges, Chair, ATRB will schedule the next ATRB meeting around the conclusion of phase II of the CL31 V2.79V OT&E, most likely **June 18, 2009**.

Please direct all questions/concerns to Joseph Fiore (Phone (301)-713-0326 x 119, email joseph.fiore@noaa.gov).