

“CL31 Replacement with ASOS ACU V2.79X, DCP V2.0 EPROM, and IFW Sensor Firmware V4.54” OT&E Test Review Group Status Meeting

July 16, 2009

ATTENDEES:

NWS:

OT&E Site Electronics System Analyst (ESA)/ Electronic Technician (ET):

WFO Caribou, ME
WFO Wilmington, OH
WFO Blacksburg, VA
WFO Jackson, KY
WFO Gaylord, MI
WFO Bismarck, ND
WFO Midland, TX
WFO Amarillo, TX
WFO Phoenix, AZ
WFO Norman, OK
WFO Hilo, HI

NWS Regional Headquarters:

Don Bolton, ARH (ABSENT)
Jim Jones, ARH
John Bush PRH
Lew Harrington, SRH RMS (ABSENT)
Dan Lester, CRH RMS
Tom Townsend CRH (ABSENT)
Duane Wilkenson CRH ASOS Focal Point
Bob Brashears CRH
Matt Ferrell, ERH RMS (ABSENT)
Kevin Murray, ERH (ABSENT)
Tim Rutkowski, ERH
Son Nguyen, WRH
Dan Herring (WFO OKC)

National Weather Service Headquarters:

John Monte – W/OST11 (ABSENT)
Joel Williams W/OST/11
Joyce Dickerson – W/OST11 (ABSENT)
Greg Dalyai – W/OPS12
Joseph Devost – W/OPS12
Mickey Renegar – W/OPS12 (ABSENT)
David Mannarano – W/OPS22
Richard Parry - W/OPS22
Chet Schmitt – W/OPS22

Peggy Hoch – W/OPS23
Hak Kim – W/OPS23
Kevin Conaty – AOMC (ABSENT)
Tony Weiss -AOMC
Beth McNulty – W/OS23
Laura Cook – W/OS7 (ABSENT)
Fred Hauschildt – W/OPS14 (ABSENT)
Jennifer Dover – W/OPS22
Brian Rice – SAIC SFSC
Barbara Childs – SAIC SFSC (ABSENT)
Khien Nguyen – W/OPS24
Harry Tran – W/OPS24 (ABSENT)
Joseph Fiore – W/OPS24 (OT&E Test Director)
Jerald Dinges – W/OPS24 (Moderator)

National Weather Service Training Center

Bob Retzlaff - Kansas City, MO

National Reconditioning Center (NRC)

Mark Russo – Kansas City, MO (ABSENT)

NWS Employees Organization (NWSEO) Representative:

Chris Kornkven –WFO Milwaukee, WI

FAA:

Bing Huang, ATO- T
Jerry Kranz, (contractor)

DOD - U.S. Navy:

Gerald “Wayne” Knight - Space and Naval Warfare System Center
(SPAWARSYSCEN), Charleston, SC (ABSENT)

Ronald Heatherdale – Space and Naval Warfare System Center (SPAWARSYSCEN),
Charleston, SC (ABSENT)

DOD - U.S. Air Force:

William (Mac) Lawrence
Ricky Keil (ABSENT)

The nineteenth CL31 ceilometer replacement Operational Test and Evaluation (OT&E) Test Review Group (TRG) status meeting was held by audio conference call on Thursday, July 16, 2009. Jerry Dinges, moderator, convened the meeting with a “roll call” (See above list of attendees).

After roll call, Jerry asked the TRG if there were any changes to the minutes from the July 9th TRG meeting. There were no changes to the minutes. The minutes from the July 9th TRG meeting were ratified, and will be posted on the W/OPS24 website:

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

First, Joe Fiore (W/OPS24) reported that **all 21 OT&E sites had successfully installed V2.79X and IFW sensor firmware V4.54 (where needed). The last three sites to install V2.79X were, Beaufort, SC (KNBC) (and V4.54 IFW sensor firmware), Oxnard, CA (OXR) (and IFW V4.54 firmware), and Camarillo, CA (CMA).** Joe then reported on the status of the comments received for the Mod Notes (80, 92, 85 (IFW)) and questionnaires received from the OT&E sites for V2.79V/X. Joe reported that Sault Ste. Marie, MI (ANJ) sent in their questionnaire. **Joe reminded the OT&E sites that have not provided comments (or that have no comments) to send him their comments on the Mod Notes and send in the questionnaires by the end of OT&E.** Joe will send the Mod Note and Questionnaire spreadsheet the TRG with the July 16 minutes. Jerry then asked sites that have not taken down their temporary mounts to let Joe Fiore know when they have removed the mounts. Jerry stated the sites should also let Joe know when they have returned the parts in for credit on “Due In“. **The sites which still need to report if they have removed the CL31 from the temporary mount are: Sault Ste. Marie, MI (ANJ), Guadalupe Pass, TX (GDP), Cheyenne, WY (CYS), Dodge City, KS (DDC), Portland, OR (HIO), and Beaufort, SC (KNBC).** Joe will also send the spreadsheet that is tracking the temporary mount status out to the TRG with the July 16 minutes so sites can let Joe know the status of the temporary mounts. **The sites which reported removing the CL31 from the temporary mount were: Jackson, KY (JKL), Caribou, ME (CAR), Bismarck, ND (BIS), Spokane, WA (GEG), and Fairbanks, AK (FAI). GEG reported their temporary mount is still in place and the CT-12K ceilometer is temporarily being stored on the temporary mount in case it is needed before OT&E ends. JKL, CAR, BIS, and FAI have removed their temporary mounts.**

Then, Joe reported that, the two remaining OT&E sites (ABR and BTV) have now deconfigured their CT-12K sensor. All 21 OT&E site are now operating with only the CL31 configured.

Next, Jennifer Dover (W/OPS22 SFSC) presented a status of the ongoing SYSLOG analysis at the CL31 OT&E sites. Jen reported that **overall, most sites continue to exhibit no SYSLOG issues since installing V2.79V and now V2.79X.** Jen provided a new spreadsheet (which Joe sent out to the TRG before the TRG meeting on July 16) that tracks the status of the SIO card errors by site, by SIO card and port, and by sensor associated with the SIO card and port. **This will be a very helpful spreadsheet to help track and analyze the SIO card errors.** A “tiger team” has been formed to perform detailed analysis on this SIO card error problem. The “tiger team” is lead by W/OPS12 and NRC, with participation by W/OPS22, W/OPS23, W/OPS24, and W/OST11. The “tiger team” will determine if the SIO card errors are serious enough to stop the deployment of the CL31 ceilometers and suspend OT&E until the problem is

fixed. The “tiger team” will use Jennifer’s spreadsheet to start analyzing these errors. A separate meeting was held on July 15th at WSH to adjudicate and prioritize TTR’s, an OTR, and potential RC, and the SIO card error problem between W/OPS24, W/OPS22, W/OPS23, and NRC. The minutes from the TTR, OTR, RC, and SIO Card errors will be attached in the email that contains the minutes from the July 16th TRG meeting. To help analyze the SIO card errors, AOMC will provide OPS24 and OPS12 with the sensor configuration and SIO Card and Ports where each sensor was located for the 21 OT&E sites prior to the start of OT&E in March. Jen reported that the sites that are having chronic SIO card errors are GDP and GEG. GDP has SIO card errors every day, even after switching the SIO card and port and replacing FO modems, etc. GEG has reported 10 SIO card errors since March. Jen also reported than KNBC has much less visibility sensor response timeouts since they fixed their visibility sensor. Walt Jameson (ET PHX) reported that the problems at PHX were hardware related and associated with the UPS, processor, and memory cards.

The next topic of discussion was a “false cloud” report from OKC on 7/15 and 7/16 (and a couple of other days) during the same time (early morning). There was an experienced human observer on site, located about 7/10 of a mile away from the ASOS sensor during this time. The observer did not report any clouds or fog of any kind at the time, so he cancelled the SPECI’s that were being generated by the OKC ASOS (SCT 400), and edited the sky field to CLR. Both the primary and back up CL31’s at OKC reported these “false clouds” during the same time. Walt Jameson asked Dan Herring if there was a road near the OKC ASOS, and Dan stated that there was indeed a road near the ASOS, but it was a paved road, and the OKC ASOS was in the middle of a field. Chet Schmitt (W/OPS22) performed a detailed analysis on the data from these cases (12 hour archive, METAR Observations, SYSLOG, EDITLOG, and OKC airport website) to try and determine what was causing the “false clouds”. OKC provided W/OPS22 background meteorological information (weather conditions at the time, SKEW-T chart, and radar at the time) to help analyze the problem. Chet obtained ASOS data from OKC and Wiley Post, OK to help analyze this problem. There was a lot of discussion on this topic, and Brian Rice (SAIC SFSC) reported that he had seen similar problems on the STO ASOS with the CL31’s installed. Brian reported that when these “false cloud” reports were reported by the STO ASOS there was bird activity in the area at the time, and that there were bird dropping all over the CL31 window. STO also had a “window condition” warning during the time of the “false clouds”. OKC (Dan Herring) and Chet reported that there was also a “window condition” warning on the OKC ASOS during this time. OKC reported that when they cleaned the window on the primary CL31 at OKC, they cleaned bird dropping off the window. **The group has concluded that these “false clouds” were most likely due to bird activity (birds flying through the laser beam at 200-400 FT) at the ASOS during this time.** The TRG asked OKC to provide human verification of bird activity in the area around the OKC ASOS in the early morning if possible.

W/OPS24 will continue to gather several pieces of information needed for the completion of OT&E including:

- 1) Completing the SYSLOG analysis from the ‘baseline’ SYSLOG analysis before V2.79V OT&E;
- 2) Collecting the TTRs, OTR, RC documented during the OT&E for adjudication;
- 3) Collecting the OT&E questionnaire from the 21 OT&E sites;
- 4) Collecting the comments on Mode Note 80 and Mode Note 92 from the OT&E sites;
- 5) Writing a “lessons learned” document from the OT&E; and,
- 6) Ensuring the OT&E test objectives (sent out my email to the TRG on 7/1/09) are met.

Jerry and Khien Nguyen (W/OPS 24) then provided a brief update on the status of V3.01 ST. ST for V3.01. Khien and test personnel staff at the Sterling Field Support Center (SFSC), Sterling, VA (Brian Rice) reported the completion of 97 of 100 regression tests for V3.01. Khien reported he would examine several TTR’s that were written against the test procedures in the V3.01 regression tests. Khien and SFSC test personnel also reported the 100 regressions tests for V3.01 would be performed on the new Single Cabinet Assembly (SCA) ASOS system at SFSC after completion of the 100 regression tests on ST0 (3-DCP system) at SFSC. **SFSC will wait to run the 100 regression tests on the SCA system at SFSC until they talk and meet with Khien next week. Khien stated he would complete editing the 50 specific function test procedures for V3.01 and provide them to SFSC soon. Khien also stated he would provide SFSC with 20 test cases (containing many data sets) provided by Chet Schmitt (W/OPS22) to test various “break points” for the ASOS algorithms in V3.01 using data from real-time meteorological events collected at operational ASOS sites. Khien needs to meet with Jen Dover (SFSC to go over all open TTR’s written against V3.01 and determine if the test procedure needs to be updated (Khien will update the test procedures if needed) or if there is indeed a failed procedure and provide an explanation for the failure. Khien and Chet will also need to teach SFSC personnel how to run the 20 test cases (with many datasets) for V3.01.**

On July 16 (at the request of Mac Lawrence) Jerry sent an official email formally asking the U.S Air Force if they would like to participate in V3.01 OT&E.

Jerry then asked that comments on the V3.01 ST Test Plan be completed by those who received the plan by July 23.

Finally Jerry summarized the test readiness of the Thin Client OT&E. Jerry stated the Thin Client OT&E is ready to begin. **The OT&E “Kick-Off” Test Readiness Review (TRR) Meeting for Thin Client OT&E would take place via teleconference at WSH at 1:30 PM EST on Wednesday, August 5th.** Joe Fiore will send the TRG an email about one week in advance to announce the “Kick Off” TRR Meeting, and the start of the Thin Client OT&E. Joe will also send an email to the ESA’s/ET’s at each OT&E site next week asking the ESA’s or ET’s to send a notice to the Air Traffic Control Tower (ATCT), and the Contract Weather observer (CWO) 1-week in advance of the plan to install the thin client VDU’s and/or OID’s

The following is the accounting for each action items from the previous TRG meetings:

- a. Action Items 8 (03/09/09), 17 (3/19/09), 35 (4/16/09), and 43 (5/7/09), and 79 (6/11/09) remain **OPEN** (No change until Phase II OT&E). **NO CHANGE**
- b. Action Items 90 (6/25/09), 96 (7/1/09), 98 (7/1/09), 99 (7/1/09), 101 (7/9/09), and 101 (7/9/09) were **CLOSED**.
- c. Action Items 63 (5/21/09), 73 (6/5/09), 84 (6/18/09), 85 (6/18/09), 93 (7/1/09), 97 (7/1/09), 103 (7/9/09), and 104 (7/9/09) remain **OPEN**.

The specifics for each action item follow:

Related to CL31 OT&E:

Action Item 8 (03/09/09) - OPEN: WSH will download the SYSLOG error messages (1015, 1515, and 1537) from all 22 OT&E sites daily and will analyze the data to determine how many random sensor time out SYSLOG error messages are generated with a \$. SAIC contract personnel at Sterling Field Support Center, Sterling VA will perform the work. Jennifer Dover (W/OPS22) will report the statistics to the OT&E TRG at the weekly meetings during the OT&E. In preparation for this activity OPS24 personnel will analyze the same SYSLOG error messages for each 15 OT&E site (22 minus the 7 Meteorological Comparison Evaluation Beta sites) for 30 days PRIOR to the OT&E. This analysis will “baseline” the number of random sensor time out errors occurrences before V2.79 V is installed.

STATUS: This action will remain open until the completion of the V2.79X OT&E (currently planned for mid-August). An NWS “tiger team” has been formed to perform detailed analysis on this SIO card error problem. The “tiger team” is lead by W/OPS12 and NRC, with participation by W/OPS22, W/OPS23, W/OPS24, and W/OST11. The “tiger team” will determine if the SIO card errors are serious enough to stop the deployment of the CL31 ceilometers and suspend OT&E until the problem is fixed. The “tiger team” will use Jennifer’s spreadsheet to start analyzing these errors.

Action Item 17 (03/19/09) – OPEN: Re-Assigned to W/OPS22 and W/OS7. W/OPS22 will coordinate the policy and procedure for disposal of the old CT12K sensors after deployment of the CL31 sensors. Joe Devost and Fred Hauschildt will provide the disposal plan for the CT12K.

STATUS: Dave Mannarano reported that W/OPS22 would talk in detail about plans for disposal of the old CT-12K ceilometers during Deployment Readiness Review Meetings which will be piggy backed onto the CL31 TRG meeting beginning in late June when OT&E is nearing completion. Dave stated that the initial plan is to have approximately 300 CT-12K ceilometers shipped to NRC after the CL31 ceilometers are deployed and installed. Dave said that there was no resolution yet on who would pay for the shipping and local disposal of the remaining CT-12K ceilometers after deployment of the CL31 ceilometers. **This Action Item will remain open until OT&E is complete and until the CL31 Deployment Readiness meetings are conducted “piggy backed” to the end of the CL31 TRG meetings in mid July.**

Action Item 35 (4/16/09) - OPEN: Assigned to OPS12 and OPS24. Greg Dalyai and Jerry Dinges will track “Lessons Learned” to ensure the problems encountered and solutions found are published, as appropriate (i.e., test report, final Mod notes, Tech tips, etc.) to minimize repeated problems occurring during the installations of CL31 for general deployment.

STATUS: This action item will remain OPEN until the OT&E Final Report is generated. A summary of lessons learned will be developed before the final report is generated.

Action Item 43 (5/7/09) OPEN: Assigned to W/OPS12. Joe Devost and Greg Dalyai will coordinate with the field on plans to discuss options for a possible national policy on the issue of the new solar winds program download problems on ET’s laptops, and possible issues with local WFO access rights with the laptops and the LAN.

STATUS: W/OPS12 will continue to investigate options for downloading the solar winds programs to the ET’s laptop with WSH, the NWS regions, and the individual WFO’s. This action item will remain OPEN until the conclusion of OT&E. W/OPS12 will contact National Weather Service Headquarters’ IT to help resolve this issue. A recommendation was made by the TRG to have W/OPS12 contact the ASOS security officer about national policy on this issue.

Action Item 79 (6/11/09) OPEN: Assigned to OPS24. Jerald Dinges will ensure a recommendation in the OT&E test report state, the Maintenance Branch (W/OPS12) establish a “tech tip” documenting a recommended port assignment scheme for sensors contacted through the SIO card on ASOS. New Action: Jerry will coordinate and lead a meeting between W/OPS24, W/OPS23, W/OPS22, W/OPS12, and W/OST11 to discuss this topic next week. This action item will remain open until the OT&E test report is complete.

STATUS: The SIO card errors and prioritization of SIO ports will be discussed at a separate meeting that he would coordinate at NWS Headquarters (WSH) next week with W/OPS24, W/OPS23, W/OPS22, W/OPS12, and W/OST11. The meeting took place at WSH on July 15th, and minutes from that meeting will be attached to the July 16th TRG minutes.

Action Item 84 (6/18/09) OPEN: Assigned to regional focal points and OT&E sites. The regional focal points and field sites (sites with temporary mounts) that ordered and received additional SIO, A/D cards, power control modules, and Fiber Optic Modems for OT&E need to remove them from their respective DCPs at the conclusion of the OT&E and return them for credit to clear the due-in.

UPDATE: This action will remain open until all Regions report their OT&E sites have turned in the parts back to NLSC for the temporary mounts for credit on “due ins.” Joe Fiore will help focal points track all actions are completed to ensure the proper disposal of the temporary mounts at each affected sites.

Action Item 85(6/18/09) OPEN: Assigned to OPS24 and OPS12. Joe Fiore will work with Joe DeVost to collect all comments received from the OT&E ETs on both NWS Engineering Modification Note #80 and #92 and send them to all the ASOS OT&E ESAs and ETs so they can see what comments have been noted during the OT&E during the installation phase of the new Vaisala CL31 and the associated ASOS ACU firmware and DCP EPROMs.

UPDATE: W/OPS24 or W/OPS12 will send out the Mode Note comments received to date to the TRG before all comments are received, so other sites can benefit from the comments and not have to duplicate comments.

Action Item 90 (6/25/09) CLOSED: Assigned to the site focal point for GDP will check with their local telephone company to determine if the analog modem loop back problem is related to telephone line problems.

UPDATE: Joe Fiore contacted GDP to ask if they had checked on with their local telephone company about telephone line problems. GDP responded that they indeed had problems with both the low speed and high speed (very noisy lines) telephone lines at GDP. The local telephone company was out at the GDP site, and fixed the phone lines. The “modem loopback” problems at GDP were definitely associated with bad telco lines.

Action Item 93 (7/1/09) OPEN: Assigned to W/OPS24 and W/OST11 a comparison of the “baseline” SYSLOGs and the SYSLOGs after the CL31 became the stand-alone ceilometer will be performed by W/OPS24 and W/OST11.

UPDATE: Joe Fiore sent a spreadsheet summarizing the SYSLOG analysis for the ASOS “baseline” firmware prior to OT&E out to the TRG on July 7. Final comparison between the “baseline” SYSLOG analysis and the SYSLOG analysis for V2.79V/V2.79X after the CL31 was the stand alone sensor (CT-12K deconfigured) will be completed shortly.

Action Item 96 (7/1/09) CLOSED: Assigned to OPS24. Joe will track all actions are completed to ensure the proper disposal of the temporary mounts at each affected sites.

UPDATE: This Action Item will be merged into Action Item 84.

Action Item 97 (7/1/09) OPEN: Assigned to OPS24. Joe will coordinate with NLSC to determine where the CT12K returned from GUY is stored.

Action Item 98 (7/1/09) CLOSED: Assigned to OPS24. Joe will arrange a meeting of subject matter experts from WSH (W/OPS12, W/OPS22, W/OPS23, and W/OST11) to discuss the RC OPS23 believes is needed to resolve the issue found at ITO. If there is a “Sensor Status” failure, it will be recorded on the MAINT page, but will not be recorded in the SYSLOG, and a “\$” will be generated. Hak stated this issue must be fixed, but that

it is a Request for Change (RC) and not a TTR. The information will be presented to the TRG for an assignment of an implementation priority.

UPDATE: The meeting was held at WSH on July 15, and the minutes from this meeting will be send out to the TRG along with the minutes from the July 16th TRG meeting.

Action Item 99 (7/1/09) CLOSED: Assigned to OPS24. Joe will coordinate with Dan Lester (CR RMS) and WFO BTV to ensure both CT12Ks at ABR and BTV are deconfigured.

UPDATE: Both sites have deconfigured their CT-12K ceilometers.

Action Item 101 (7/9/09) CLOSED: Assigned to W/OPS24. Joe Fiore will send the TRG a list of the outstanding TTR's, OTR, and RC to the voting members of the TRG for adjudication and prioritization for fixing the problems

UPDATE: Joe sent the email on this topic on July 14th, and a meeting was held at WSH on this topic on July 15.

Action Item 102 (7/9/09) CLOSED: Assigned to W/OPS24. John Monte asked W/OPS24 to write a TTR to state that the CL31 warning message "Window Conditioner" is incorrect. The message should read "Window Condition". **COMPLETE**

The following new Action items were assigned during the July 16 TRG meeting:

Action Item 105 (7/16/09): Assigned to AOMC. To help analyze the SIO card errors, AOMC will provide W/OPS24 and W/OPS12 with the sensor configuration and SIO Card and Ports where each sensor was located for the 21 OT&E sites prior to the start of OT&E in March.

Action Item 106 (7/16/09): Assigned to WFO OKC. The TRG asked OKC to provide human verification of bird activity in the area around the OKC ASOS in the early morning hours if possible.

Related to V3.01 ST:

Action Item 103 (7/9/09) OPEN: Assigned to W/OPS24. Khien will complete the 50 specific test procedures for V3.01 and provide them to SFSC soon. Khien also stated that he would provide SFSC with 20 data sets provided by Chet Schmitt (W/OPS22) to test various break points for the ASOS algorithms in V3.01 using data from real data collected at ASOS sites. **Khien and Chet will teach SFSC personnel how to run the 20 datasets.**

UPDATE: Khien needs to meet with Jen Dover (SFSC to go over all open TTR's written against V3.01 and determine if the test procedure needs to be updated (Khien will update the test procedures if needed) or if there is indeed a failed

procedure and provide an explanation for the failure. Khien and Chet will also need to teach SFSC personnel how to run the 20 test cases (with many datasets) for V3.01.

Action Item 104 (7/9/09) OPEN: Assigned to W/OPS24. Joe Fiore W/OPS24 will contact the NWS regional focal points, the FAA focal Point, the U.S. Navy focal point, and the USAF focal points for suggested sites for V3.01 ST. Joe Fiore will begin to write the Draft Test Plan for V3.01 OT&E to be completed by September 2009.

Related to OT&E for OID/VDU Thin Client Logistics Replacement:

Action Item 63 (5/21/09) OPEN: Assigned to W/OPS24. Khien Nguyen will contact the US Navy SPAWARSYSCEN in Charleston, SC to make sure that the line driver test (power boost) of the “daisy chained” VDU’s has been completed.

STATUS: The U.S. Navy has not yet had a chance to perform this test.

Action Item 73 (6/5/09) OPEN: Assigned to W/OPS24. At the FAA request, Joe Fiore will ask the ETs at each OT&E site to send a notice to the Air Traffic Control Tower (ATCT), and the Contract Weather observer (CWO) 1-week in advance of the plan to install the thin client VDU’s and/or OID’s.

UPDATE: Joe will send an email out to this group during the week of July 20-24.

Action Item 107 (7/9/09): Assigned to W/OPS24. Joe Fiore will send the TRG an email about one week in advance (week of July 27-31) to announce the “Kick Off” TRR Meeting, and the start of the Thin Client OT&E.

The next OT&E TRG meeting will be scheduled for **Thursday, July 23 at 2 pm EDT** to provide a status report on OT&E activities. Please use the following information to dial into the meeting:

Telephone: 1-866-685-1879

Password: 8259362#