

“CL31 Replacement with ASOS ACU V2.79V and DCP V2.0 EPROM” OT&E Test Review Group Status Meeting

June 18 2009

ATTENDEES:

NWS:

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

WFO Caribou, ME
WFO Wilmington, OH
WFO Roanoke, VA
WFO Jackson, KY
WFO Gaylord, MI
WFO Amarillo, TX
WFO Phoenix, AZ
WFO Norman, OK

NWS Regional Headquarters:

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

National Weather Service Headquarters:

John Monte – W/OST11 (ABSENT)
Joyce Dickerson – W/OST11 (ABSENT)
Greg Dalyai – W/OPS12 (ABSENT)
Joseph Devost – W/OPS12 (ABSENT)
David Mannarano – W/OPS22
Richard Parry - W/OPS22
Chet Schmitt – W/OPS22
Peggy Hoch – W/OPS23 (ABSENT)
Hak Kim – W/OPS23
Kevin Conaty – AOMC
Tony Weiss -AOMC
Beth McNulty – W/OS23 (ABSENT)
Laura Cook – W/OS7 (ABSENT)
Fred Hauschildt – W/OPS14 (ABSENT)

Jennifer Dover – W/OPS22 (ABSENT)
Brian Rice – SAIC SFSC (ABSENT)
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) (ABSENT)

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 fifteenth CL31 ceilometer replacement Operational Test and Evaluation (OT&E)
Test Review Group (TRG) status meeting was held by audio conference call on
Thursday, June 18 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
June 11th TRG meeting. There were no changes to the minutes. The minutes from the
June 11 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 provided an update on the status of the “switch” spreadsheet. Joe
reported on the progress on the installation of the V2.79V ACU firmware, V2.0 DCP
EPROMS using Mod Note 80, and the installation of the CL31’s using Mod Note 92 at

the 5 phase II OT&E sites. As of June 18, 3 of the 5 remaining Phase II OT&E sites successfully replaced their CT12K ceilometers with the new CL31 sensors [i.e., PHX (6/15), GUY (6/16), and CMH (6/18)]. ROA started their installation and will complete it on 6/19. OKC reported they received the bird deterrent from SFSC and will be schedule their installation the week of June 22-26 based on the following successful installations: 1) The SFSC validated of the installation of the CL31 using the OKC configuration on one of their ASOS test systems Friday, June 12; and, PHX successfully installed their second back up CL31 on Monday, June 12.

Joe reported the 90-day preventative maintenance was performed at Sault Ste. Marie (ANJ) on 6/16/09. To date, four sites performed the 90-day preventative maintenance on the CL31's. Aberdeen, SD (ABR) will not deconfigured their CT-12K because there is still was some question as to whether ABR would be a data continuity site for ceilometers if a data continuity study is required for the ceilometers. Until W/OPS24 receives a formal response from OCWWS on whether there is a requirement for the ceilometer data continuity study, ABR. ABR and BTV will be the only OT&E sites which will not deconfigure their CT12K during the remainder of the OT&E per the TRG approval based on unique requirements.

Joe Fiore presented a status of the ongoing SYSLOG analysis at the CL31 OT&E sites. Overall, most sites continue to exhibit no SYSLOG issues since installing V2.79V. Joe said two sites continue to exhibit chronic problems. Spokane, WA (GEG) continues showing SIO errors, sensor response timeouts, and AU/DCP comms errors. **UPDATE:** After the TRG meeting on June 18, Joe received an e-mail from GEG stating what they planned to do to help resolve the issues at GEG next week. Joe passed the e-mail onto John Monte (focal point on this issue at NWS headquarters) and Joe Devost (W/OPS12) so they can help GEG resolve their problems. Joe reported that Guadalupe Pass, TX (GDP) had “numerous modem loopback” errors. Joe mentioned JohnMonte reported at past TRG meetings he believes the GDP “modem loopback” errors are related to previously documented SIO card “watch item” Test Trouble Report.

At Lew Harrington's request, Jerry presented an issue regarding the CL31 sensor tilt angle at Guymon, OK (GUY) and Phoenix, OK (PHX). Dave Wilburn (GUY) reported (summarizing an e-mail sent to W/OPS24 and the TRG NWS regional focal points prior to the TRG meeting) GUY reported a 3-degree change in the tilt angle over a short period of time that was directly related to temperature. When is it cold the tilt angle decreased (to 1.9 degrees at 58F), and when it was hot the tilt angle increased (to 4.6 degrees at 99F). Dave Wilburn also mentioned he spoke to John Monte about this issue, and John believes it was not a major problem. John recommended to Dave a NWS Engineering Maintenance Note be written to inform the ET's to check the tilt angle of the CL31 frequently, especially when there are large diurnal temperature swings. Dan Lester (CRH) suggested the tilt angle should be checked at least when the Freezing Rain sensors are turned off and on during the spring and fall. It was agreed W/OPS12 and W/OST11 will determine how often the tilt angle of the CL31's is checked.

Next, Jerry reviewed the “OPEN” Action Items from the June 11th TRG meeting related to the CL31 OT&E project. Then, Jerry reviewed the open Action Items from the June 11^h TRG meeting related to the V2.79X/V3.01 ST, and finally Jerry reviewed the open Action Items from the June 11^h TRG meeting related to the Thin Client OT&E.

The noteworthy discussions and statements from the June 5th CL31 OT&E TRG meeting included:

Joe Fiore provided an update on the status of the “switch” spreadsheet. Joe reported on the progress on the installation of the V2.79V ACU firmware, V2.0 DCP EPROMS using Mod Note 80, and the installation of the CL31’s using Mod Note 92 at the 5 phase II OT&E sites.

The following list provides a status on the 5 phase II OT&E sites:

PHX – Phoenix, AZ – (back up site) installed ACU V2.79V firmware, V2.0 DCP EPROMS, and the primary CL31 on 6/10/09 and installed the back up CL31 on 6/15/09.

GUY – Guymon, OK – (SCA site) successfully installed ACU V2.79V firmware, V2.0 DCP EPROMS, and the CL31 on 6/16/09.

CMH – Columbus, OH – (meteorological discontinuity site) successfully installed ACU V2.79V firmware, V2.0 DCP EPROMS, and the primary CL31 and meteorological discontinuity CL31 on 6/18/09.

ROA – Roanoke, VA – (back up site) installed ACU V2.79V firmware, V2.0 DCP EPROMS, was in the process of installing the primary CL31 on 6/18/09. The back up CL31 will be installed at ROA on 6/19/09.

OKC – Oklahoma City, OK - (back up site) will install ACU V2.79V firmware, V2.0 DCP EPROMS, and the CL31’s during the week of June 22-26.

Aberdeen, SD (ABR) has not deconfigured their CT-12K because there was some question as to whether ABR would be a data continuity site for ceilometers. The TRG once again discussed the requirement for a climate data continuity study for the CL31/CT12K ASOS ceilometers. The issue is if a data continuity study is required would any of the 16 dual configuration OT&E sites be participating in the study? If so, this means that the CT12K should not be deconfigured during the OT&E at the affected sites. The Office of Climate Weather Water Services (OCWWS) will make this decision on whether there will be a data continuity study performed for the ceilometers. Until W/OPS24 receives a formal response from OCWWS, ABR will NOT deconfigure its CT-12K. OCWWS will formally state whether the ASOS Ceilometer is required to go through a climate data continuity study.

Walt Jameson requested OPS24 share all comments provided by the ETs who install the Vaisala CL31 ceilometer(s) and the ASOS ACU V2.79V and DCP V2.0 EPROMs on the draft NWS Engineering Modification Note #92 and #80, respectively. OPS24 will coordinate with OPS12 to gather these comments and will distribute them by e-mail.

Next, a discussion between W/OPS22 (Hak Kim) and Walt Jameson took place with regards to the UPS configuration at Phoenix, AZ (PHX). Hak wants Walt Jameson to reconfigure the DELTEC UPS (1200 Baud) to a SOLA UPS (9600 baud) to see how that affects SIO card communications. Walt agreed to reconfigure the DELTEC UPS (1200 Baud) to a SOLA UPS (9600 baud)

Next, Jerry provided a status and update on the plans for installation of V2.79X ACU firmware in conjunction with IFW sensor firmware version V4.54 at OT&E sites. Jerry stated that a meeting to discuss these plans was held on June 18 at NWS headquarters between W/OPS24, W/OPS22, and W/OST11. Jerry briefly summarized the result of this meeting, and stated an e-mail would be sent to the TRG next week detailing the plans for V2.79X and IFW sensor firmware V4.54 installation at OT&E sites and selected V2.79D sites. Jerry provided a summary to the TRG as follows: If V2.79V is successful, OT&E for V2.79V will conclude on July 1, 2009. The V2.79X OT&E would commence on July 6th and end sometime in mid-August. 19 OT&E sites will participate in V2.79X OT&E. Some of the OT&E sites will receive IFW sensor firmware version V4.54 along with V2.79X ACU firmware, and the other OT&E sites would use the current IFW sensor firmware (V4.51) with V2.79X to test various configuration in the field. Jerry also stated a select number of OT&E sites will be labeled as “priority” sites, so they can install the V2.79X ACU firmware and V4.54 IFW sensor firmware as quickly as possible. Finally, a new group of OT&E sites will be added which currently operate ASOS ACU V2.79D and will also install ACU V2.79X and the IFW firmware V4.54.

Jerry also provided a brief update on the status of V3.01 ST. Jerry will meet with Jennifer Dover (W/OPS22 SFSC) and Khien Nguyen (W/OPS24) Tuesday, June 23 to discuss details and schedule for the remaining regression and functional test procedures for V3.01 ST that will performed at SFSC over the next couple of months.

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

- a. Action Items 7 (11/17/08), 8 (03/09/09), 11 (3/12/09), 12 (03/19/09), 17 (3/19/09), 35 (4/16/09), 43 (5/7/09), and 55 (5/14/09) remain OPEN (No change until Phase II OT&E). **NO CHANGE**
- b. Action Items 69 (6/11/09), 78 (6/11/09), and 80 (6/11/09) were **CLOSED**.
- c. Action Items 54 (5/14/09), 63 (5/21/09), 64 (5/21/09), 73 (6/5/09), 76 (6/11/09), and 77 (6/11/09) remain **OPEN**.

The specifics for each action item follow:

Related to CL31 OT&E:

Action Item 7 (11/17/09) - OPEN: Assigned to ESA's. The ESA's (NOTE: exception is Dan Lester for NWS Central Region) will notify the OT&E Test Director (Joe Fiore) by e-mail when they are ready to install the CL31 ceilometer, V2.0 DCP EPROMS (for sites that use EPROMS), and ASOS V2.79V ACU Software. They will also notify the OT&E test director when installation of all required material is complete.

STATUS: This action will remain OPEN until all 21 OT&E sites have the CL31 ceilometer installed along with the ASOS ACU V2.79V firmware and DCP V2.0 EPROMS.

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 OT&E.

Action Item 11 (03/12/09) – OPEN: Assigned to W/OPS24. Joe Fiore will provide the TRG a status update at each status meeting on the CL31 ceilometer and ASOS ACU V2.79V and DCP V2.0 EPROM installation until all 22 sites have completed this activity.

STATUS: This action will remain OPEN until all 21 OT&E sites have completed their installations.

Action Item 12 (03/19/09) – OPEN: Assigned to W/OST11. John Monte will query EMRS to obtain the serial numbers for the CL31 installed at the 22 OT&E sites. He will e-mail the appropriate contact if the information is not found in EMRS.

STATUS: This activity is ongoing, and will be complete once all 21 OT&E sites have provided the CL31 Serial number in EMRS or by e-mail to John Monte. W/OST11 will access ERMS to complete this task once the last site has installed the CL31 sensor, V2.79V ACU Firmware, and V2.0 DCP EPROMS (where applicable).

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 late June.**

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.

Action Item 43 (5/7/09) OPEN: Assigned to W/OPS12. Joe Devost and Greg Dalyai will coordinate with the field 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 NWS HQ IT to help resolve this issue.**

Action Item 55 (5/14/09) OPEN: Assigned to the NWS Alaska Region Headquarters and OST11. The NWS Alaska Region Headquarters will coordinate (with OST 11 help) moving the CL31 ceilometers from the test bed in Fairbanks, AK, to a test bed in Barrow, AK. This will allow further testing of the CL31 ice crystal study, because, climatologically. Barrow has 10 times more occurrences of ice crystals than any other site in the U.S.

STATUS: On June 16, Don Bolton clarified Fairbanks will only be sending one CL31 to Barrow and the ET’s are only installing one of the CL31's at Barrow on the second DCP. This site is already a Data Continuity Site and has (2) CT12K's on separate DCP's. This needs to be completed before the long winter sets in at Barrow. **This Action Item will remain open until completion later in the summer of 2009.**

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. **This action item will remain open until the OT&E test report is complete.**

Action Item 69 (6/5//09) CLOSED: Assigned to W/OP23, W/OPS24, and W/OST11 will continue to monitor the problem of chronic sensor response timeouts at ITO and GEG, and try to help ITO and GEG solve the problem with sensor response timeouts. John Monte and Hak Kim will meet Monday, June 8th to discuss options for both sites. **This Action Item has been combined with Action Item 77.**

Action Item 76 (6/11/09) OPEN: Assigned to OCWWS (W/OS4). OCWWS will formally state whether the ASOS Ceilometer is required to go through a climate data continuity study.

UPDATE: This Action Item will remain open until OCWWS provides a formal response on whether a data continuity study will be performed for the ceilometers.

Action Item 77 (6/11/09) OPEN: Assigned to W/OST11. John Monte will be the focal point at NWS headquarters for the issues at Spokane, WA (GEG), and he will contact the ET and ESA at GEG to help them solve their problems.

UPDATE: The GEG ET sent an email to WSH detailing plans to help resolve the issues at GEG. John Monte will contact the GEG ST next week to provide help.

Action Item 78 (6/11/09) CLOSED: Assigned to W/OST11. John Monte will send Columbus, OH (CMH) a missing mounting bolt kit for one of the CL31's. **COMPLETE**

The following new action items were assigned for the CL31 OT&E during the June 18 TRG meeting:

Action Item 81 (6/18/09): Assigned to W/OPS12 and W/OPS11. W/OPS12 and W/OST11 will determine how often the tilt angle of the CL31's is checked, and W/OPS12 will develop a Maintenance Note for checking the CL31 Tilt Angle.

Action Item 82 (6/18/09): Assigned to W/OST11. John Monte will let the TRG know if the battery on the CL31 should be set to on or off.

Action Item 83 (6/18/09): Assigned to Walt Jameson (ET PHX). Walt will reconfigure the DELTEK UPS (2400 baud) as a SOLA UPS (9600 baud) at PHX and report back to W/OPS23 (Hak Kim) on how this affects the SIO card communication.

Action Item 84(6/18/09): 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, 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.

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.”

Action Item 85(6/18): 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.

Related to V2.79X/V3.01 ST:

Action Item 54 (5/14/09) OPEN: Assigned to OPS24. Khien Nguyen will write the V3.01 System Test (ST) Plan, and coordinate ST at SFSC, WSH, US. NAVY SPAWARSYSCEN, and possibly a USAF site in Hurlbert Field, FL. This includes organizing resources to perform the ST test, assuring that data sets to test the IFW QC logic algorithm and other V3.01 changes are run and that the ST schedule is written in the test plan and provided to each site participating in ST.

STATUS: A Draft Test Plan for V3.01 ST is in internal review at W/OPS24. Once Jerry Dinges finishes editing the draft test plan, it will be sent to the ST sites, NWS headquarters, and the NWS regional focal points for review.

Action Item 80 (6/11/09) CLOSED: W/OPS24, W/OPS22, W/OST11, and W/OPS12 will determine which CL31 OT&E sites receive V2.79X in conjunction with receiving the IFW V4.54 sensor firmware after successful completion of CL31 V2.79V OT&E.

UPDATE: A meeting was held at WSH on 6/17/08 and a plan of action for V2.79X and IFW V4.54 sensor firmware was developed. This plan will be shared in an e-mail from OPS24 with the TRG before next week’s TRG meeting.

The following new Action Item was assigned during the V2.79X/V3.01 part of the June 18 TRG meeting:

Action Item 85 (6/18/09) CLOSED: Assigned to W/OPS24. W/OPS24 will resend the document written by W/OPS23 on the "Proposal to Modify ASOS Software Version 3.01 Ice Free Wind Sensor Heater Component Reporting" to the TRG for review.

COMPLETE

UPDATE: W/OPS24 resent the document to the TRG on June 18, 2009. **This topic will be discussed at the TRG meeting on June 25.**

Action Item 86 (6/18/09): Assigned to W/OPS24, W/OPS12, and W/OST11. The method for delivery of V4.54 IFW firmware (by download to the IFW sensor) to the OT&E sites will be determined by the group.

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 64 (5/21/09) OPEN: Assigned to W/OPS12. OPS12 will track the status of the reprogramming of the configuration files for the 50 OID thin clients between the Thin Client vendor and NLSC. This will remain open until the pre-requisites for OT&E are complete.

STATUS: The reconfiguration of the 50 VDU thin clients to OID thin clients that were sent back to the thin client vendor has been completed. The vendor will ship the 50 OID thin clients back to NSLC this week. After all VDU thin clients (72), OID thin clients (50), and one spare for each site to be stored at corresponding WFO for each OT&E site, OT&E can commence.

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.

No new action items were assigned during the June 11 TRG meeting.

The next OT&E TRG meeting will be scheduled for Thursday, June 25 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#