

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

April 2, 2009

ATTENDEES:

NWS:

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

WFO Amarillo, TX
WFO Gaylord, MI
WFO Jackson, KY
WFO Dodge City, KS
WFO Cheyenne, WY
WFO Hilo, HI
WFO Phoenix, AZ

NWS Regional Headquarters:

Ed Doerr, ARH
John Bush PRH
Lew Harrington, SRH RMS
Dan Lester, CRH RMS
Matt Ferrell, ERH RMS (ABSENT)
Kevin Murray, ERH (ABSENT)
Tim Rutkowski, ERH (ABSENT)
Son Nguyen, WRH (ABSENT)

National Weather Service Headquarters:

John Monte – W/OST11 (ABSENT)
Joel Williams – W/OST11 (ABSENT)
Greg Dalyai – W/OPS12
Joseph Devost – 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 – AMOC (ABSENT)
Beth McNutly – W/OS23
Laura Cook – W/OS7 (ABSENT)
Jennifer Dover – W/OPS22
Barbra Childs – W/OPS22 (SAIC SFSC)
Khien Nguyen – W/OPS24
Joseph Fiore – W/OPS24
Harry Tran – W/OPS24
Jerald Dinges – W/OPS24 (Moderator)

National Weather Service Training Center

Bob Retzlaff - Kansas City, MO

NWS Employees Organization (NWSEO) Representative:

Chris Kornkven –WFO Milwaukee, WI (ABSENT)

FAA:

Bing Huang, ATO- T

Jerry Kranz, (contractor)

DoD - U.S. Navy:

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

DoD - U.S. Air Force:

William (Mac) Lawrence

The fourth CL31 ceilometer replacement Operational Test and Evaluation (OT&E) Test Review Group (TRG) status meeting was held by audio conference call on Thursday, April 2, 2009. Jerald Dinges, moderator, convened the meeting with a “roll call” (See above list of attendees).

Joe Fiore presented a summary on the status of the installation of the CL31 ceilometer and V2.79V firmware at the OT&E sites. Joe also talked about problems encountered at some of the OT&E sites. Jennifer Dover (W/OPS22) provided an update on the SYSLOG analysis currently in progress at the OT&E sites that have installed and configured the CL31 ceilometer as a “test” sensor along with V2.79V firmware. Jerry reviewed the open action items from the March 26 TRG meeting. Next, the TRG ratified the minutes with minor changes from the March 26 TRG meeting. The minutes from the March 26 TRG meeting will be put on the W/OPS24 website:

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

The final topic was a Test Readiness Review (TRR) for the Thin Client VDU ST presented by Khien Nguyen (W/OPS24). After the TRR the TRG voted unanimously to proceed to Thin Client VDU ST.

The noteworthy discussions and statements from the April 2 CL31 OT&E TRG meeting included:

- 1) Review of the ASOS CL31 ceilometer and ASOS firmware/EPROMs installation at the 22 OT&E sites - Joe Fiore reported the following new sites successfully installed ASOS V2.79V including the CL31:

JKL – Jackson, KY – 4/1

Joe also reported that:

GEG – Spokane, WA plans on installing the CL31 and V2.79V on 4/2
BTV – Burlington, VT plans on installing V2.79V next week (April 6-10)

Joe reported that the following sites have not yet installed the CL31, V2.0 DCP EPROMS, or the V2.79 firmware:

CMA – Camarillo, CA
OXR – Oxnard, CA

Joe reported there are now a total of 11 Sites with the CL31 and V2.79V installed and operational, with two sites that have installed the V2.79V firmware, but have not yet installed and/or configured the CL31 ceilometer due to issues with the connection of the ceilometer to the ASOS. The thirteen sites that have installed V2.79V (two without the CL31 sensor configured) are:

BIS – Bismarck, ND – 3/12
KNBC- Beaufort, SC (U.S. Navy) – 3/13
ABR- Aberdeen, SD – 3/16
CAR – Caribou, ME – 3/16
ITO – Hilo, HI – 3/16
ANJ – Sault Ste. Marie, MI – 3/18
GDP – Guadalupe Pass, TX – 3/18
GUY – Guymon, OK – 3/18 NOTE: CL31 not configured yet
CYS- Cheyenne, WY – 3/18 NOTE: CL31 not configured yet
HIO – Portland, OR – 3/19
DDC – Dodge City, KS – 3/19
FAI – Fairbanks, AK – 3/25
JKL – Jackson, KY – 4/1

NOTE: Joe will provide an updated table of the status of all CL31 and V2.79V installations as an attachment to these minutes and subsequent minutes during the OT&E installations. [See below Action Item 11 (03/12/09)]

- 2) Joe reported on issues seen with the installation of the CL31 ceilometer at the ASOSs @ Guymon, OK (GUY), and Cheyenne, WY (CYS):
 - a. GUY - The Electronic Technicians (ET's) from Amarillo, TX once again traveled to Guymon, OK (a two-hour ride) on April 1 to reinstall the CL31 sensor on their SCA ASOS. The ET's cold booted the GUY ASOS and reinstalled V2.79V firmware and the CL31. They were unsuccessful with the installation of the CL31. However, they were able to get both the CT12K and the CL31 to talk and provide data if they put either sensor (by itself) on SIO 5 Port 1 and made it the operational sensor. They were unable to get either the CL31 or the CT12K ceilometers to talk or provide

data on the other SIO card (SIO 4 Port 3 or 4). They have put a new SIO card in SIO 4 (and tried many other options) and they still have not been successful in getting the CL31 or the CT12K to work on SIO 4. The ET's and ESA at Amarillo (Dave Wilburn), and Lew Harrington have done a lot of troubleshooting on this problem that has taken a lot of time. We are grateful for the time and effort spent on this issue. Walt Jameson (ET PHX) suggested that perhaps GUY had received a bad version of V2.79V. W/OPS24 agreed to e-mail another copy of V2.79V to Dave Wilburn. Update: After the meeting W/OPS24 sent an e-mail with V2.79V that was received by Dave Wilburn. GUY will install this firmware next Monday April 6 at GUY to make one final attempt to make the dual installation of CT12K and the CL31 work. Walt Jameson also suggested Dave check the voltage to the back of the rack (5 V) and to the VME rack itself (12V) to ensure the optimum voltage. Dan Lester reported they had done the voltage check for ANJ. If neither of these suggestions are unsuccessful, the TRG agreed GUY would be moved to Phase 2 of OT&E, where they would take off the CT12K and replace it with the CL31 at GUY.

- b. CYS- Cheyenne, WY. Bill Cronin reported they were still having problems with the CL31 installation. Bob Retzlaff (NWSTC) provided some guidance by letting Bill know the CL31 light would turn amber when the sensor was powered up and communicating. Bill reported the CL31 light was indeed amber, but the CL31 still could not talk to the DCP. Bill Cronin and Bob Retzlaff will continue to trouble shoot the problem with the CL31 talking to the DCP including check of the fiber optics. Bill Cronin reported he shipped the original CL31 ceilometer to SFSC on 3/30, and Jennifer Dover (W/OPS22) reported that SFSC had received the CL31 from CYS on 4/1.
- 3) Jennifer Dover reported on the status of the SYSLOG analysis at the OT&E sites that is being performed by SFSC. Jen referred to the spreadsheet that summarized any issues seen to date at the OT&E sites. Overall, most sites have not had any SYLOG issues since installing V2.79V. Jen reported BIS and ITO still experienced some unexplained AWPAG sensor response timeouts. Steve Butler (ET Hilo, HI) reported he did not have any AWPAG response timeouts in the last two days. Jen also reported ANJ and BIS had several random CT12K (1015) response timeouts. ANJ is an SCA ASOS's, and has reported random CT12K sensor response timeouts in the past. SFSC, W/OST11, and W/OPS24 will continue to track these issues. So far, the V2.79V load has not significantly increased sensor response timeouts.
- 4) Ron Heatherdale (U.S. Navy) reported he had sent more data for the occasional blank CL31 data (ASOS Sky algorithm output in brackets “[]”) in the raw CL31 data on the 12-Hour TEST page to John Monte. John Monte will investigate this problem with the data provided by Ron.
- 5) Jerry Dinges reviewed the action items with “OPEN” status from the March 26 TRG meeting (See below for the latest status report) .

- 6) Khien Nguyen conducted a Test Readiness Review (TRR) for System Test (ST) of the AXEL Thin Client VDU replacement. Khien reported the ST will start next week at SFSC and would consist of validating the revised draft NWS Modification Note for the AXEL thin Client for the VDU replacement as well as running 10 regression tests on four communication configurations at SFSC. These configurations include: 1) Hardwire (long cable and short twisted pair cable); and, 2) Leased Line (phone and modem). Two new configurations, not included in the first ST includes: 1) the FTI Comms (Intraplex and GDM modems); and, 2) a “daisy chain” configuration proposed by Greg Dalyai. Khien will coordinate with SFSC and the FAA on the Thin Client ST schedule. Ron Heatherdale volunteered to have the ASOS at the U.S. Navy in Charleston participate in ST. The Navy has another VDU Thin Client that they will use to support ST. Greg Dalyai will send Ron Heatherdale the correct configuration file to change the U.S. Navy Thin Client to a VDU. After the TRR the TRG voted unanimously to proceed to Thin Client VDU ST.

The following is the accounting for each action item:

- a. Action Items 3, 6, 7 (11/17/08), and 12 (03/19/09) remain OPEN (No change until Phase II OT&E).
- b. Action Item 8 (03/09/09) and 11 (3/12/09) remain OPEN. (No change until OT&E is completed).
- c. Action Items 17, 21 (3/19/09), and 22 (3/26/09) remain OPEN.
- d. Action Items 13, 23, 24, 25 were CLOSED.

The specifics for each action item follow:

Action Item 3 (11/17/09) - OPEN: Assigned to W/OPS12 and W/OPS24 regarding when Phase II OT&E sites will get their additional CL31. E-mail will be sent to ROA, CMH, OKC, and PHX to inform them when to except the second ceilometers. ROA, CMH, OKC, and PHX will receive their second CL31 ceilometer after the decision is made to make the CL31 the operational ceilometer.

STATUS: Report on this action item until just prior to PHASE II OT&E commencement

Action Item 6 (11/17/09) – OPEN: Assigned to ESA’s to inventory all items they receive from NLSC and WSH. The ESA’s will inventory all items received (CL31 ceilometer) CL31 hardware kits, V2.0 DCP EPROMS, V2.79V software (and documents obtained from the OPS12 website), and let the OT&E Test Director (Joe Fiore) know by e-mail (or phone) if the inventory list is complete.

STATUS: This action will remain OPEN until all 22 OT&E sites have the CL31 ceilometer installed along with the ASOS ACU V2.79V firmware and DCP V2.0 EPROMS.

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 22 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 SAIC personnel at SFSC will also 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 22 OT&E sites have provided the CL31 Serial number in EMRS or by email to John Monte.

Action Item 13 (03/19/09) – CLOSED: Assigned to the WFO CYS. Bill Cronin will repackage and ship the CL31 to John Monte W/OST11. **COMPLETE**

Action Item 17 (03/19/09) – OPEN: Assigned to W/OPS12 and W/OPS14. Joe Devost and Fred Hauschildt will provide the disposal plan for the CT12K.

STATUS: Greg Dalyai and John Monte will discuss how to handle this issue. Greg Dalyai reported that NRC currently has 25 CT12K spare ceilometers and LRU's in stock.

CAN AIR has expressed interest in receiving the old CT12K ceilometers once they are taken off the ASOS's. The main question still revolves around who will pay for local disposal of the CT12K sensors and who will pay for the return of the old CT12K to NLSC. Another question that arose still pending is whether the entire CT12K unit will be returned or just components of the ceilometer? These scenarios will occur when the CL31 replaces the CT12K during national deployment of the CL31 ceilometer if V2.79V CL31 OT&E is successful.

Action Item 21 (03/19/09) – OPEN: Assigned to ASOS ACCB. The ASOS ACCB will determine the course of action once Prism's proposal to fix ASOS ACU V2.79V related to the IFW V4.54 sensor firmware.

STATUS: Jerry Dinges reported there was a meeting at WSH just before the TRG meeting to discuss this issue to get a consensus on what is/are the problem(s) so a clear concise statement of the problem can be presented with resolution options to the TRG and ATRB. Progress was made at the meeting. SFSCC will install a "bad" IFW sensor on an ASOS test system and report specific results (e.g., any missing IFW data, \$ generated, METAR output, SYSLOG error messages, etc). Once these test results are obtained, Jerry will schedule another meeting with WSH personnel to lay out specifics on the options to resolve the problem(s) into a fix and options for what ASOS ACU firmware the fix will go.

Action Item 22 (3/26/09) - OPEN: Assigned to W/OPS12 and W/OPS24 (with help from W/OSTS11). Joe Fiore (W/OPS24) will generate the text for a "Tech Tip" on potential warm boot problems when more than one synchronous port (i.e. ADAS and CL31) is assigned in ASOS, and provide the text to Joe Devost (W/OPS12) so he can generate the "Tech Tip" for distribution to the ET's.

STATUS: Joe Fiore provided a word document of this document to W/OPS12 on 3/30. W/OPS12 reported they have modified the document and that final changes to this tech tip would be complete soon.

Action Item 23 (3/26/09) – CLOSED: Assigned to W/OPS24 and DDC. Joe Fiore (W/OPS24) will ask ESA/ET @ WFO Dodge City, KS and Dan Lester (CRH) for comments and suggestions for improving the dual installation instructions for the CL31 OT&E. **COMPLETE**

STATUS: Dan Lester provided Joe Fiore with comments from DDC after the TRG meeting and Joe past them on to W/OPS12 on 4/2.

Action Item 24 (3/26/09) - CLOSED: Assigned to U.S. Navy. The U.S. Navy will investigate whether the drop out in the Navy ATC display is a local problem or a problem with V2.79V firmware. SFSC reported that their Navy ATC Display was functioning properly. **COMPLETE**

STATUS: Ron Heatherdale (U.S. Navy) reported that he had sent more data for the occasional blank CL31 data (ASOS Sky algorithm output in brackets “[]”) in the raw CL31 data on the 12-Hour TEST page to John Monte. John Monte will investigate this problem with the data provided by Ron.

The following new action items were assigned at the April 2 TRG meeting:

Action Item 25 (4/2/09) (CLOSED): W/OPS 24 will send another copy of V2.79V by e-mail to Dave Wilburn, so they can install it at GUY next week. **COMPLETE.**

STATUS: Dave Wilburn received the email from W/OPS24 on 4/3 after the TRG meeting.

Action Item 26 (4/2/09) (OPEN): Assigned to WFO AMA. Dave Wilburn will-

- 1) Check the ASOS to ensure the optimum voltage is applied to the Back of the ASOS rack and to the VME rack (12V).
- 2) Install the latest V2.79V received by e-mail from WSH (Action Item #25).

Action Item 27 (4/2/09)(OPEN): Assigned to W/OST11. John Monte will analyze the data provided by Ron Heatherdale on the missing sky condition algorithm output [] on the 12-hour test page.

Action Item 28 (4/2/09)(OPEN): Assigned to W/OPS24. Khien Nguyen will coordinate the test methodology and schedule for the ST of the AXEL Thin Client VDU replacement ST with SFSC, the FAA, and U.S. Navy SPAWARSYSCEN, Charleston, SC.

Action Item 29 (4/2/09) (OPEN): Assigned to W/OPS12. Greg Dalyai will send Ron Heatherdale the correct configuration file for the AXEL thin client to change the extra U.S. Navy-purchased AXEL Thin Client to a VDU.

The next OT&E TRG meeting will be scheduled for **Thursday, April 9, at 2 pm EDT** to provide a status report on OT&E activities. There will only be an audio conference call. Please use the following information to dial into the meeting:

Telephone: 1-866-685-1879
Password: 8259362#