

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

April 16, 2009

ATTENDEES:

NWS:

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

WFO Phoenix, AZ
WFO Spokane, WA
WFO Midland, TX
WFO Gaylord, MI
WFO Bismarck, ND
WFO Jackson, KY
WFO Cheyenne, WY
WFO Hilo, HI

NWS Regional Headquarters:

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

National Weather Service Headquarters:

John Monte – W/OST11
Joel Williams – W/OST11 (ABSENT)
Greg Dalyai – W/OPS12 (ABSENT)
Joseph Devost – W/OPS12 (ABSENT)
Thomas “Mickey” Renegar – OPS12 (ABSENT)
David Mannarano – W/OPS22
Richard Parry - W/OPS22
Chet Schmitt – W/OPS22 (ABSENT)
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
Brian Rice – SAIC SFSC
Barbara Childs – SAIC SFSC

Khien Nguyen – W/OPS24
Harry Tran – W/OPS24
Joseph Fiore – W/OPS24 (ABSENT)
Harry Tran – W/OPS24
Jerald Dinges – W/OPS24 (Moderator)

National Weather Service Training Center

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

DoD - U.S. Air Force:

William (Mac) Lawrence

The sixth CL31 ceilometer replacement Operational Test and Evaluation (OT&E) Test Review Group (TRG) status meeting was held by audio conference call on Thursday, April 16, 2009. Jerald Dinges, moderator, convened the meeting with a “roll call” (See above list of attendees). **(Please note: Ed Doerr, ARH, will retire from Federal Government on May 1st. Don Bolton will replace Ed at as the ARH representative at our future meetings once Ed retires. We all wish Ed the best on his retirement!)**

Jerry Dinges presented a summary on the status of the installation of the CL31 ceilometer and V2.79V firmware at 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 April 9th TRG meeting. The minutes from the April 2nd TRG meeting will be posted on the W/OPS24 website:

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

The noteworthy discussions and statements from the April 16th CL31 OT&E TRG meeting included:

- 1) Review of the ASOS CL31 ceilometer and ASOS firmware/EPROMs installation at the 21 OT&E sites – Jerry Dinges reported the following new sites successfully installed ASOS V2.79V including the CL31:

BTV - April 14

GEG – April 15 (V2.79V and V2.0 EPROMS installed 4/8 and the CL31 installed 4/15).

Paul Kozsan, ET @ GEG reported the unit required another neutral jumper for the sensor power neutral at A4-17B to A4-20A to get the CL31 to work properly. This particular neutral jumper was not mentioned in the installation instructions. (NOTE: Jerry spoke with Joe DeVost subsequent to the meeting. It should be noted this site has more than 8 sensors attached to the ASOS and, therefore, requires another power breaker to be installed. The extra neutral jumper cable is not part of the standard inventory of CL31 items send to the site.) At the meeting Dan Lester also noted that is a known problem that was found during the installation a Jackson, KY. A recommendation was made the OT&E report should have a “LESSONS LEARNED” supplied so these experiences encountered during the OT&E are shared with the NWS Electronic Technicians (ET) who will install the CL31 for general deployment after the successful completion of the OT&E. Another example why a “LESSONS LEARNED” is needed is the resolution of the AWPAG sensor time out error messages noted at both ITO and BIS. As these problems are resolved, the information should be shared with the NWS ETs. John Monte stated he is the COTR for the AWPAG and will follow-up on this recommendation for both the CL31 and the AWPAG.

Jerry Dinges he spoke with Gary Strickland, Electronics System Analyst & WFO Oxnard, CA this week and confirmed Gary will install CL31, ASOS V2.0 DCP EPROMS, and the ACU V2.79V firmware, the week of April 20th at:

CMA –Camarillo, CA
OXR – Oxnard, CA.

At Gary’s request, Joe DeVost sent 2 new set of V2.0 ERPOMS by FedEx for overnight shipment on Thursday, April 16. The original sets sent November 2008 could not be located. Son Nguyen, WRH, will be at WFO Oxnard to observe the installations.

The fourteen sites have installed ASOS V2.79V/V2.0 EPROMs with 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
CYS- Cheyenne, WY – 3/18 NOTE: CL31 configured 4/9
HIO – Portland, OR – 3/19

DDC – Dodge City, KS – 3/19

FAI – Fairbanks, AK – 3/25

JKL – Jackson, KY – 4/1

GEG- Spokane, WA – 4/8 NOTE: CL31 configured 4/15

BTV – Burlington, VT – 4/14

NOTE: GUY – Guymon, OK – ASOS V2.79V/V2.0 EPROMS installed on 3/18 with the CL31 deconfigured on 4/9 per TRG agreement (4/9) to make GUY a Phase II OT&E site (i.e., replace CT12K with CL31).

NOTE: Jerry Dinges 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)]

Jennifer Dover reported on the status of the SYSLOG analysis at the OT&E sites that is being performed by SFSC. Jennifer referred to the spreadsheet that summarized any issues seen to date at the OT&E sites. This spreadsheet was sent to the TRG the morning of this meeting (Attached). Overall, most sites continue to exhibit no SYLOG issues since installing V2.79V. Jerry noted that Steve Butler, upon Walter Jameson’s recommendation, performed NWS Modification Note #84, *AWPAG Connector Kit*, on the AWPAG for ITO on 4/9 and found corrosion “between the female and male sections” during the inspection. Steve cleaned the corrosion and installed the hardware using the modification note. The SYSLOG reports shows no “AWPAG Time out problems. Jennifer noted that she shipped the data logger to Steve Butler which John Monte stated he would do at the last meeting. The purpose of the data logger is to help analyze the sensor time out problem. Steve noted that the data logger was tracked to arrive the next afternoon (4/17). John Monte stated he would send a data logger for BIS too since that site was having the problem. Dan Lester noted that the AWPAG measuring unit was switched out at BIS as the probable cause of the AWPAG time out problem. Jerry noted that John Monte was going to check with National Reconditioning Center, Kansas City, MO to inspect the returned unit.

- 2) Jerry discussed the schedule for ending Phase I of the OT&E. He is setting Wednesday, April 29 for the next meeting of the ASOS Test Review Board (ATRB). Two topics for ATRB action will be on the agenda:
 - Commencement of the AXEL Thin Client OT&E (Test Readiness Review) for the Logistics Replacement of the ASOS OID/VDU.
 - Approval to make the CL31 the primary (operational) ASOS ceilometer at the 14 Phase I OT&E sites and configure the CT12K ceilometer as the “test” sensor.

Prior to the CL31 being switched as the operational ceilometer, a Technical Information Noticed (TIN) will be issued from National Weather Service Headquarters to the user community including the affected WFOs of the OT&E sites. This message will announce the switch of the operational sensors and will

contain information pertinent to any significant differences. This information will be gleaned from the ongoing CT12K and CL31 Meteorological Comparison Evaluation (MCE) that is occurring at 7 of the OT&E sites including the test ASOS system at the SFSC, Sterling, VA. The TIN should be issued 96-hours before the switch-over. This will give the affected WFOs an opportunity to review the TIN as it will be used by the WFOs to generate a local Public Notification Statement (PNS) 48 to 72-hours before the switch-over. The earliest date for the switch-over will be early May for the TIN to be issued, followed by the issuance of the PNS, then finally, the switch-in of the CL31 as the operational ceilometer. Once all 16 sites have made the switch, the dual ceilometers will operate in this mode for at least two weeks. If the operational CL31 is successful, the last 5 OT&E sites will use the draft NWS Mod Note #92 and #80 to replace their site's existing CT12K with the CL31 as intended for general deployment of the CL31. The earliest that will happen is late May.

- 3) Jerry Dinges reviewed the action items with "OPEN" status from the April 2 TRG meeting (See below for the latest status report).
- 4) The final discussion focused on the System Test (ST) of the AXEL Thin Client VDU LOGISTICS Replacement. Khien Nguyen reported he successfully completed the "CAT5 200' Cable" test and the ST at SFSC was finished. Ron Heatherdale reported he did not have "Mickey" Renegar's e-mail and had not received the configuration setup instructions from Mickey to setup their second AXEL Thin Client as an ASOS VDU replacement. Jerry provided the e-mail: Thomas.Renegar@noaa.gov to Ron. Ron will commence their portion of the ST next week. This should not affect the briefing to the ATRB on April 29th to commence the OT&E for the Logistics Replacement of the ASOS OID/VDU.

Jerry also queried the NWS regional representative on their information on existing "daisy" chained VDUs at operational ASOS sites and the number of VDUs in the "daisy" chain. The following summarizes the results:

SRH - ABQ Tracon has 2 VDUs
MOB has 2 VDUs
ERH - 15 of 23 sites were queried
6 sites have a "daisy" chain; all with 2 VDUs (includes Svc A & B)
CRH - No sites more than 2 VDUs (i.e., 2 sites each have 2 VDUs)
WRH - No site has a "daisy" chain configuration.
ARH - Ditto
PRH - Ditto.

Walter Jameson, ESA WFO PHX, stated there is mentioned in NWS Modification Note #40 the use of a VDU for digital ATIS or is feeding off a nearby available VDU. The consensus is that OPS12 should follow up to

determine if this VDU connection requires a special interface or is a “daisy” chain configuration.

In addition, Jerry Dinges stated Jerry Kranz sent an e-mail updating which of the 10 selected OT&E sites for the AXEL Thin Client Logistics Replacement for the ASOS OID/VDU transition to FTI communications since the September 2008 OT&E plan was signed. In the e-mail, Jerry states the OID at ORD for which an Request for Change was submitted to replace it with a VDU needs to stay an OID. The FTI communications between the ACU and the ATCT is configured for 9.6kpps. A VDU is setup to operate at 2.4kbps. Jerry is coordinating with the FAA . If the FAA insists on a VDU, then Jerry will recommend an OID w/o a keyboard. He also points out BOI VDU-1 is listed as an FTI connection -- it does not. Finally, he recommends using several sites (IND, MSO, and BOI) to test the FTI circuits at the start of the OT&E.

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). **NO CHANGE**
- b. Action Item 8 (03/09/09), 11 (3/12/09), and 17 (3/19/09) remain OPEN. (No change until OT&E is completed). **NO CHANGE**
- c. Action Items 21 (3/19/09), 22 (3/26/09), 29 (4/2/09), 32(4/9/09), 33(4/9/09), and 34(4/9/09) remain OPEN.
- d. Action Items 31(4/9/09) was 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 expect 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 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 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 third meeting at WSH just before the TRG meeting (4/16). Khiem Nguyen briefed the group on the results of testing conducted this week. Khiem prepared a table of the results which was very helpful in showing which ASOS Firmware was used with the IFW “bad” sensor, what action was taken, and what were the responses. A final meeting is schedule Wednesday, April 22 to review the options for implementing the fix in the ASOS firmware and deployment of the IFW V4.54 firmware.

Action Item 22 (3/26/09) - OPEN: Assigned to W/OPS12 and W/OPS24 (with help from W/OSTS11). Joe Fiore (W/OPS24) will generated 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 Devost reported the “Tech Tip” is in final review in OPS12 and is in a template. It will be distributed officially next week (April 13th). – **NO CHANGE**

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.

STATUS: Greg Dalyai is on TDY. Thomas “Mickey Renegar will send Ron the configuration set up instructions. – **NO CHANGE**

UPDATE: Ron Heatherdale will e-mail Mickey Renegar (Thomas.Renegar@noaa.gov). Once the configuration set up is complete, the U.S. Navy will start the ST regression tests for the project.

Action Item 31 (4/9/09) (CLOSED): Assigned to SRH. Lew Harrington will ask Dave Wilburn, ESA, WFO AMA to check the back plane for loose connections per suggestion by Chris Kornkven WFO MKE. **COMPLETED**

STATUS: Lew Harrington reported this was completed the previous week and was not successful. GUY will be a Phase II OT&E test participant.

Action Item 32 (4/9/09) (OPEN): Assigned to OPS24. Joe Fiore will document the “[blank]” field instead of “CLEAR” for sky condition report by the CL31 in the ASOS

12-hour archive as a Test Trouble Report but show it as “CLOSED” with the information provided by John Monte from his analysis of the data from Ron Heatherdale, U.S. Navy SPAWARSYSCEN, Charleston, SC. – **NO CHANGE**

STATUS: Joe has been out of the office since April 6. He will return Monday, April 20.

Action Item 33 (4/9/09) (OPEN): Assigned to all NWS regional headquarters. Each regional ASOS focal point will query their regional sites to determine how many “daisy” chain VDUs are operationally used and what is maximum number of VDUs supported in one chain. The regions will report to the TRG on Thursday, April 16.

STATUS: All regional headquarters expect PRH reported the results of their survey. Jerry sent a query e-mail on 4/16 shortly after this meeting.

Action Item 34 (4/9/09) (OPEN): Assigned to OPS12. Mickey Renegar will ensure the draft NWS Modification Note for installation of the AXEL Thin Client for the ASOS VDU replacement is modified to include information on how to configure a “daisy” chain of VDUs. This revision will be validated during the VDU replacement ST by OPS24.

STATUS: This update is pending the results of the NWS regional headquarters’ survey. All 5 regions who have reported indicate that the “daisy” chain configurations (few in number) only have 2 VDUs.

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

Action Item 35 (4/16/09): Assigned to Steve Butler (ITO). Steve will install the data logger between the AWPAG and the ACU so OST11 can monitor the AWPAG sensor time out SYSLOG error messages. (This problem might be solved after NWS Mod Note #84 was installed).

Action Item 35 (4/16/09): 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.

Action Item 36 (4/16/09): Assigned to OPS12. Greg Dalyai will investigate Mod Note #40 to determine if any special connections are required for VDUs connected to the digital ATIS.

The next OT&E TRG meeting will be scheduled for **Thursday, April 23, 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#

