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

April 9, 2009

ATTENDEES:

NWS:
OT&E Site Electronics System Analyst (ESA)/ Electronic Technician (ET):
WFO Midland, TX
WFO Jackson, KY
WFO Dodge City, KS
WFO Cheyenne, WY
WFO Hilo, HI
WFO Phoenix, AZ

NWS Regional Headquarters:
Ed Doerr, ARH (ABSENT)
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 (ABSENT)

National Weather Service Headquarters:
John Monte – W/OST11
Joel Williams – W/OST11 (ABSENT)
Greg Dalyai – W/OPS12 (ABSENT)
Joseph Devost – W/OPS12
Thomas "Mickey" Renegar – OPS12
David Mannarano – W/OPS22
Richard Parry - W/OPS22
Chet Schmitt – W/OPS22
Peggy Hoch – W/OPS23 (ABSENT)
Hak Kim – W/OPS23
Kevin Conaty – AMOC (ABSENT)
Beth McNutly – W/OS23 (ABSENT)
Laura Cook – W/OS7 (ABSENT)
Jennifer Dover – W/OPS22
Brian Rice – SAIC SFSC
Khien Nguyen – 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) (ABSENT)

DoD - U.S. Navy:
Ronald Heatherdale – Space and Naval Warfare System Center (SPAWARSYSCEN), Charleston, SC

DoD - U.S. Air Force:
William (Mac) Lawrence

The fifth CL31 ceilometer replacement Operational Test and Evaluation (OT&E) Test Review Group (TRG) status meeting was held by audio conference call on Thursday, April 9, 2009. Jerald Dinges, moderator, convened the meeting with a "roll call" (See above list of attendees).

Jerry Dinges presented a summary on the status of the installation of the CL31 ceilometer and V2.79V firmware at the OT&E sites. John Monte (OST11) 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 2 TRG meeting. Khien Nguyen briefed the status of the System Test for the AXEL Thin Client for the ASOS Visual Display Unit (VDU). Next, the TRG ratified the minutes from the April 2 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 noteworthy discussions and statements from the April 9 CL31 OT&E TRG meeting included:

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

   CYS - April 9.

   CYS reported they successfully resolved the problem of connecting the CL31 as a "test" sensor. The problem was a wrong DB-9 connector.

Joe DeVost reported Dwight Williams, ESA reported they tried to install GEG on Wednesday, April 8. They were successful with the installation of the ASOS firmware V2.79V and the V2.0 EPROMs. However, they could not get power to the CL31. Joe talked to the ET, Paul Kozsan about the problem and reported they were getting power all the way to the unit; it could be a "bad" ceilometer. John Monte will contact Paul to confirm and, if so, send a new sensor.

Jerry Dinges reported the following sites have not yet installed the CL31, V2.0 DCP EPROMS, or the V2.79 firmware, but, are scheduled for installation the week of April 20th:

CMA –Camarillo, CA
OXR – Oxnard, CA

The fourteen 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 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 not configured yet

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)]

2) The status of the CL31 installation issues at the ASOSs @ Guymon, OK (GUY), was reported next:
    a. GUY – Lew Harrington, SRH, reported both suggested actions from the previous TRG meeting were tried [i.e., 1) Reload the V2.79V firmware obtained from OPS24 by e-mail; and, 2) Optimize the voltage to the backplane of the ASOS (12V) and the VME rack (5 V)]. However, neither proposed solution worked. Therefore, the TRG approves making GUY a Phase II site for the OT&E. Lew requested the site revert back to V2.79D because of sensor timeout problems with V2.79V. However,

John Monte asked Lew to first try deconfiguring the CL31 (remotely) and leaving V2.79V installed for one or two days to see if "sensor time out" problems continued. Lew agreed to try this configuration.

Chris Kornkven commented he remembered having a voltage problem on the back plane of an ASOS and eventually he checked the connection that was orange with black wires. He found the problem was a loose socket. Lew said he will have GUY checked for this problem.

3) John Monte reported on the status of the SYSLOG analysis at the OT&E sites that is being performed by SFSC. John 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. John stated reported BIS and ITO still experienced some unexplained AWPAG sensor response timeouts. John reported he will work with Steve Butler to place a data logger on ITO to try to determine the source of the continued AWPAG sensor time out problems. John did not include BIS in this effort because of continued bad weather conditions at the site. and did no want to have the ET to make a trip to install a data logger. He believes if they find the problem at ITO, the same problem could be causing the AWPAG sensor time out error messages at BIS.

   Walt Jameson, WFO PHX, asked whether NWS Mod Note #84, *AWPAG Connector Correction Kit*, was performed at either site. Steve Butler stated that this was NOT performed for ITO. (NOTE: Steve confirmed by e-mail later he had performed this modification that same day. He discovered some contamination between the male and female sections. He cleaned this and installed the hardware required by the modification note. John Monte later notices a decrease in the AWPAG sensor time out errors and will keep track if the trend continues to improve).

   Dan Lester after the meeting requested the AWPAG measurement unit be replaced for BIS. He noted that this had solved the problem at other sites. Jerry, after consulting with John Mone, agreed this action could be taken. John Monte will contact NRC to examine the returned measuring unit.

4) John Monte reported to the TRG he has analyzed the data Ron Heatherdale sent him with regard to the blank data found in the 12-hour archive for sky condition when the ceilometer is reporting "CLEAR" and normal built in test response. John noted he confirmed that SFSC analysts have also seen this same problem, but, it is not repeatable. He believes it is a V2.79V problem. However, although PRISM, Inc. includes "sky condition" information in the 12-Hour archive it is not a requirement. It also has no operation impact which Ron concurred. John recommended to the TRG that the problem should not be classified as "Watch Item" at this point. The TRG concurred. It will be listed as a Test Trouble Report but, CLOSED as noted.
5) Jerry Dinges reviewed the action items with "OPEN" status from the April 2 TRG meeting (See below for the latest status report) .

6) Khien Nguyen presented a status of the System Test (ST) of the AXEL Thin Client VDU replacement which commence at Sterling Field Support Center, Sterling, VA on April 7 for the following communication configurations : 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 GDC modems); and, 2) a "daisy chain" configuration proposed by Greg Dalyai. All configurations and the requisite regression tests will be completed Friday, April 10. Khien stated he will also test the communication configuration for a 200-foot CAT5 cable. Khien noted he was unsuccessful in establishing communication with the "Daisy" chain using the cable in and out serial connection. However, he and Harry Tran were successful in establishing a working connection using a "signal splitter" or "Y" connector. However, Mickey Renegar, pointed out this configuration is limited to 2 connected VDUs. Dave Mannarano stated the requirement for the existing VDU is up to 50 units. Later Lew Harrington quoted from the ASOS S100 Manual, pp 1-75, ASOS shall support 1-3 OIDs and up to 50 airline displays. However, the group agreed that the upper limit was not probably not how many are operationally required. The NWS Regions were asked to find out how many VDUs are "daisy" chained. In addition, OPS12 was asked to document how to "daisy"chain multiple VDUs and modify the VDU installation draft NWS Modification Note for Khien to validate. Finally, Mickey Renegar will also ensure the VDU configuration setup instructions are sent to Ron Heatherdale. Greg Dalyai is on TDY and could not send it as previously requested.

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), and 29 (4/2/09) remain OPEN.
d. Action Items 26, 27, 28 (4/2/09), and 30 (4/9/09) 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 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 second meeting at WSH just before the TRG meeting (4/9) to the test results provided my Jennifer Dover from further testing performed on Friday, April 3. Since the test results were still unclear, Khien Nguyen was assigned to lead another test effort next week with Jennifer Dover and Hak Kim and report back on the results on Thursday, April 16.

Action Item 22 (3/26/09) - OPEN: Assigned to W/OPS12 and W/OPS24 (with help form 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).

Action Item 26 (4/2/09) (CLOSED): 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 (5V) and to the VME rack (12.3V).
2) Install the latest V2.79V received by e-mail from WSH (Action Item #25). **COMPLETED**

STATUS: Neither of the above actions solved the problem. The TRG agreed to move GU to Phase II of the OT&E and resulted in the following new Action Item (See Below).

Action Item 27 (4/2/09) (CLOSED): 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**. COMPLETED**

STATUS: Analysis of the data showed the problem was not repeatable. The problem (i.e., reporting "[blank]" for sky condition of the CL31 in the ASOS 12-Hour archive when the sky is "CLEAR") is valid and in V2.79V. However, reporting sky condition in the 12-hour archive is NOT a requirement although Prism, Inc includes the information. This problem has no operational impact and will be CLOSED as at Test Trouble Report with this information noted rather than tracked as a "Watch Item."

Action Item 28 (4/2/09) (CLOSED): 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. **COMPLETED**

STATUS: The ST started 4/7/09**.**

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 Renager will send Ron the configuration set up instructions.

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

Action Item 30 (4/9/09) (CLOSED): Assigned to SRH. Lew Harrington, SRH, will notify Dave Wilburn, ESA WFO AMA to deconfigure remotely the CL31 and leave V2.79V installed for 1-2 days for John Monte to monitor if the sensor time out error messages still occur.

STATUS: The action was completed by Dave on 4/9/09.

Action Item 31 (4/9/09) (OPEN): 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.

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.

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.

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.

The next OT&E TRG meeting will be scheduled for **Thursday, April 16, 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#