TWP ARCS-1 Site
RESET VISIT-9M Report

Manus: 23 January – 28 January 2000
PNG NWS Momote Station, Manus Province and
PNG NWS Headquarters, Port Moresby
Papua New Guinea

CONTENTS:

7.0   LESSONS LEARNED:

8.0   ATTACHMENTS:

     A.   Attachment 1—Audit-In/Site Condition Report

     B.   Attachment 2—Audit-Out Report

     C.   Attachment 3—RESET-9M Tasking Plan

1.0   INTRODUCTION:

The main goals of the TWP Operations RESET-9M Visit (non-routine) to ARCS-1 at Momote Airport on Manus, PNG were the following; 1) MMCR Y2K upgrades and 2) MPL Y2K upgrade. Details of the RESET visit planning are found in the Attachments.

This Report is organized according to the planned tasks or work units performed during the RESET Visit. Within these work units the activities accomplished are arranged chronologically. Most of the information was put together by the RESET-9M members based on the actual visit, daily reports.

2.0   TWP OPERATIONS / RESET MANAGEMENT:

Once an ARCS Site is established the Operations part of TWP is responsible for keeping the site running and reporting data. Operations also coordinate equipment retrofits at these established sites. The local NWS personnel at the site, routine RESET visits, and nonroutine RESET visits accomplish this.

Routine RESET visits are scheduled on approximately six-month intervals and are focused mainly on routine maintenance, instrument calibration, instrument replacement, and training. A formal audit-in is performed upon arrival and audit-out before departure.

Nonroutine RESET visits are intended for technical nonroutine tasks such as emergency repairs, retrofits, or the addition of new instruments.

The work on a RESET visit is performed by the RESET Team, but many times in close coordination with the local on-site Observers. The team holds a daily tasking meeting each morning at the site using the proposed RESET visit-tasking schedule. After each day's work, the team meets to summarize what was done and an assigned team member writes a "Daily Report" to be e-mailed back to TWP personnel in the US. Because of the time-zone differences, necessary calls to instrument mentors in the US are done in the morning.

RESET-9 Manus Members:
- Fred Helsel – Lead,/Daily Reporting, 23-28 January 2000
- Kevin Widener, 23-28 January 2000

PNG On-Site Observers:
- Francis Anuma – OIC
- Mary John – OIC

3.0   RESET PREPARATION:

Preparation for RESET visits requires a long lead-time to line up reservations, visas, shots, medication, documentation, procedures, and training plans. Close coordination with AIS/ATSS, instrument mentors, and shipping personnel is critical

well before the departure date. Prioritization and task rejection is a difficult and important part of RESET visit preparation.

4.0 MANUS TASKS PERFORMED:

A. Perform Audit-In: (Helsel)

B. Upgrade MMCR Y2K:

24Jan:
- MMCR upgrades done and GOES reports are starting to look fine.

C. Upgrade MPL Y2K Ingest:

24Jan:
- MPL upgrade done.

D. Run PIR Comparison (Possibly Replace SKYRAD PIR with Spare):

27Jan:
- Did PIR dome test on PIRs and had the same results as Nauru. Also downloaded logger configs in case someone wants them.

E. Diagnose I-Van UPS Problems, e.g., Circuit Breaker; Load Balance:

25Jan:
- See "MPL Problems."

F. Investigate Fax Machine Problems:

26Jan:
- Checked with Richard and David. The fax was operating with no problem since the new ink cartridge was purchased (purchased in Lorengau for 80 kina).

G. Replace MMCR Temperature Sensor: (Widener)

26Jan:
- The MMCR temperature sensor was not worked on due to rain.

27Jan:
- Widener finished MMCR temp probe replacement.

H. *Install "tymserv" Device to Match Nauru Installation:*

24Jan:
- Timeserver installed and IP address set, not sure about Adam software or how to tell if adam is getting time from it.

25Jan:
- Talked with Guy Wilcox and Jeff Schmaltz. They were able to log onto the "termsvr."
- Talked with Dick Eagan and the timeserver is working, but "Eve" needs some help. Egan will fix up Eve tomorrow.

27Jan:
- Eagan remotely fixed tymserv for EVE.

I. *Replace Telebit Modem with "U.S.Robotics V.Everything Modem Configured like the ARCS-2 and ARCS-3;*

24Jan:
- U.S.Robotics modem installed. Left it on modem when I left.

26Jan:
- Talked with Eagan about modem problems; he gave me some hints. I tried them with no luck.
- Set the modem with some different settings, and modified the tyrmsvr line 16.
- Tried it from the observers Phone, and think it's working. The password is the double nickels.

27Jan:
- Modem working; changed passwords back to original.

J. *Acquire Current Configuration and SYSGEN Listings for the DigiCORAs for Lesht; Troubleshoot Network/Fiber Connections:*

24Jan:
- New bit drivers installed on DigiCORA and terminal server. (Will replace the Fiber jumper in the E-Van tomorrow if GOES report looks OK. May need some help from Jeff Schmaltz. Is it still working with new bit drivers?)

24Jan:
- Replaced DigiCORA fiber jumper and system works even though fiber probably was the problem. Left new bitdrivers installed. Downloaded SYSGEN and sent file to TWPOPS and Barry Lesht.

K. *Repair RAID (Coordinate with Wilcox):*

25Jan:
- I was going to do the raid repair, but when I went to check which drive needed repairing, there were no dead drives. There were drives on-line and one spare.

I thought the spare was faking me out, so I ran the program that makes a spare a spare. It ran with no problems so it appeared not to need repairing.

L.   Replace Ceilometer (Coordinate with Porch):

25Jan:
- Ceilometer has not yet arrived.

26Jan:
- Ceilometer so far is still a "no show."

27Jan:
- Ceilometer so far is still a "no show."

M.   Repair H2GEN Tubing (Supplied by BOM):

25Jan:
- Replaced water line on H2 generator as per Mayfield.

N.   Switch D-Van UPS Mode to Manual:

26Jan:
- UPS on manual.

O.   Install Audio Phone Ringer Outside Vans:

24Jan:
- Installed outside telephone ringer; needs testing.

26Jan:
- Tested and it works.

P.   Check MFRSR Level:

25Jan:
- MFRSR head was very close to required level; I tweaked it a tiny bit.

Q.   Check MACS/COMS to GOES Transmitter Connection:

- This connection does not appear to be a problem as can see communication between MACS and COMS.

R.   Troubleshoot MACS "Watchdog":

25Jan:
- Ray Edward's "arcscom.exe" installed on COMS.
- We need help in troubleshooting the MACS. It's not obvious how the fix is done.

26Jan:
- Need help.

27Jan:
- Talked with Ray Edwards and tried to troubleshoot MACS and COMS; the only thing he came up with was to reset the GOES transmitters time, which I did. Ray will soon have a fix for the MACS computer problem where it fails at the DOS prompt.

S. Check PIR_G and PIR-D Cables to Loggers:

25Jan:
- Checked PIR cables PIR-G on #2, PIR-D on #6. It all looks okay.

T. Install Z-Modem Software on ADaM:

24Jan:
- Z-modem tape in ADaM dev/rmt/0; tape from Nauru in Adam dev/rmt/1.

26Jan:
- Z-modem tape in ADaM dev/rmt/0, tape from Nauru in Adam dev/rmt/1.

27Jan:
- Talked with Annette and Z-modem software is installed; the other software I brought from Nauru is also installed.

U. ISS Y2K Fix:

25Jan:
- Installed ISS-van Y2K upgrades.

V. Test Inmarsat B Phone Connection:

27Jan:
- Tried it, but it doesn't work.; when tried to call out it said "no service connected."

W. Update New H2 Generator and BBSS Procedures:

25Jan:
- Updated observer's manual with BBSS and H2 generator. Note: I could only find one.

X. Set Up New Stevenson Screen:

25Jan:
- Not done this trip.

Y.   Perform UFS Dump:

24Jan:
- Artecon tape backups done.

Z.   Locate Missing Resupply Items:

26Jan:
- Helsel found missing items at the site and unpacked them.

AA. Evaluate MPL Problems:

25Jan:
- We found what tripped the UPS breaker. It was the MPL's omega thermocouple readout. It is nonfunctional. Kevin reset the MPL power strip and boom; the van was out. After following my nose we found the omega readout. (I located a spare and started to install it but realized I don't know how to program it. I found the manual but don't know what the settings should be. This also controls the heater for the window, Conner Help

26Jan:
- Widener installed the MPL Omega readout and tomorrow will plug in the heater element.

27Jan:
- Reworked MPL power connections (the compressors were on UPS power.) Compressors, Omega, telescope heater, and window heater now on 50 Hz. Laser, scaler and computer on UPS.

BB. Other:

26Jan:
- Working phone lines. Called Dick from hotel. Stopped by telcom trying to get the phones fixed. They fixed them in the afternoon.
- Balloon Barn lights are being left ON over night; I informed the observers to turn them OFF after use. If this doesn't work, maybe a timer can be installed on a later reset.

27Jan:
- Had observers' dinner and a group Photo. The digital camera was a hit.
- Took photos of the dug up electrical system, and I installed a conduit to protect our service entrance cable.
- Trouble shot the RBL work-light problem; it needs new ballast. I have retrieved the part #. It is a special explosion-proof ballast. or I would have purchased one here and replaced it.
- Cleaned up site.

CC. Perform Audit-Out: (Helsel)

27Jan:
- Audit-out completed.

5.0 FUTURE RESET VISIT:
The following items should be considered for inclusion in the task planning for the upcoming RESET visits:
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6.0 FOLLOW-UP ACTIONS:
The following actions should be taken as a result of this RESET Visit:
- Set up new Stevenson Screen (coordinate with Yellowhorse and Porch).
- Balloon Barn lights are being left ON over night; I informed Observers to turn them OFF after use. If this doesn't work maybe a timer can be installed on a later RESET.
- Need a spare MPL Omega thermocouple readout.

7.0 LESSONS LEARNED:
RESET members for future TWP installations and operations should consider the following observations:
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8.0 ATTACHMENTS:
    Attachment 1—Audit-In/Site Conditions Report
    Attachment 2—Audit-Out Report
    Attachment 3—RESET-9M Tasking Plan

Attachment 1—Audit-In/Site Conditions Report (On-Line)

Attachment 2—Audit-Out Report (On-Line)

Attachment 3—RESET-9M Tasking Plan

<u>**RESET-9M**</u>

Manus Team:
<u>RESET-9M</u>

Team:
- Fred Helsel (Lead)
- Kevin Widener

<u>**MANUS**</u>
Priority tasks:
1. Perform Audit-In
2. Upgrade MMCR Y2K
3. Upgrade MMCR Y2K Ingest
4. Run PIR Comparison (Possible SKYRAD PIR Replacement)
5. Diagnose I-Van UPS Problems (Circuit Breaker; Load Balance)
6. Investigate Fax Machine Problems
7. Replace MMCR Temperature Sensor
8. Install "tymserv" Device
9. Replace Telebit Modem
10. Acquire Current Configuration & SYSGEN Listings for Digicoras for Lesht; Network; Fiber Connections Troubleshooting
11. Repair RAID
12. Replace Ceilometer
13. Repair H2GEN Tubing
14. Switch D-Van UPS Mode to Manual
15. Install Audio Phone Ringer Outside Vans
16. Check MFRSR Level
17. Check MACS/COMS to GOES Transmitter Connection
18. Troubleshoot MACS "Watchdog"
19. Check PIR-G and PIR-D Cable to Loggers
20. Install Z-Modem Software to ADaM
21. Fix ISS Y2K
22. Check Inmarsat B Phone Connection
23. Update New H2 Generator and BBSS Procedures
24. Set Up New Stevenson Screen
25. Perform UFS Dump
26. Locate Missing Resupply Items
27. *Evaluate MPL Problems*
28. Perform Audit-Out