**ARM Manus Research Station
RESET Visit 17M Report**

Visit Duration: 07 October – 08 November 2002

Papua New Guinea National Weather Service Momote Station, Manus Province
and
Papua New Guinea National Weather Service Headquarters, Port Moresby

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A. Introduction

The main goals of the TWP Operations RESET17-M Visit (routine) to ARCS-1 at Momote Airport on Manus, PNG were the following: 1) New Data System installation 2) New VSAT satellite dish and system installation.

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 out together by the RESET-17M members based on the actual visit, daily reports.

B. TWP Operations Management and RESET Visits

Once an ARCS Site is established, TWP Operations maintains the site and performs data reporting. TWP Operations also coordinated equipment retrofits at the established sites; accomplished by local NWS site personnel, routine RESET visits, and non-routine RESET visits.

Routine RESET Visits
Routine 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.

Non-Routine RESET Visits
Non-routine visits are intended for technical non-routine tasks such as emergency repairs, retrofits, and/or the addition of new instruments.

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

Reset Members

- Troy Culgan (BOM)
- Richard Eagan (ANL)
- John Glowacki (BOM)
- Ronald Reed (SGP)
- Guy Wilcox (PNNL)

C. Tasks Performed

1. ADaM software/hardware upgrade to SDS (Reed, Eagan)

27 Oct
- Confirmed: all data equipment and network systems on site
- Confirmed: ftp passwords function
- Dumped Artecon /files 0 to Ron Reeds laptop
- Network hardware functional
- Commenced configuring network equipment

28 Oct
- V.35 cable for Cisco router tested with VSAT modem, test OK
- Configuration of network equipment continues
- Data system equipment rack shut down
- Removed old data system UPS (UPS to be shipped to Darwin for battery replacement and testing, when complete to be system spare)
- Removed Artecon
- Installed VSAT UPS in Equipment rack
- Prepared data system rack for installation of new system components

29 Oct
- Rack preparations and hardware install progressing
- New IP addresses configured in I-Van instruments (MWR, Vceil, WSI, MMCR)
- Configuration of network equipment continues

30 Oct
- Collector and NFS server operational
- DS1 operational
- Received gateway and router IP addresses
- Testing network access control (ongoing task)

31 Oct
- DS2 operational
- All available instruments collecting
- Testing network access control (ongoing task)

01 Nov
- Successful collection from all available instruments
- Console server installation in progress
- R1 installation in progress
- Testing network access control (ongoing task)
- Configured network time protocol on instrument PC's

02 Nov
- R1 installation complete
- Enabled operator access to serial instruments through R1
- Testing network access control (ongoing task)

03 Nov
- Coordinating with ESNet to sort out routing issues
- Coordinating with ANL to resolve a firewall issue

04 Nov
- Network access via PNNL in progress
- Testing network access control (ongoing task)

05 Nov
- Testing network access control (ongoing task)
- Site is on the network
- Rack cabling organized

06 Nov
- Testing network access control (ongoing task)

07 Nov
- Recovering from ESNet re-routing of Manus IP address space

08 Nov
- Verifying remote site access

2. Set up Snapshot/SAM system (Wilcox)
03Nov
- Configured SAM laptop for connectivity

04 Nov
- Snapshot / Sam system operational

3. Modify Zenocom as per BCR-00474 (Eagan)
06 Nov
- Completed during SDS upgrade

4. Re-architect the site to separate the functionality of IOP, instrument and data system networks (a la Eagan)
06 Nov
- Been so busy didn't notice we completed this task

5. Observer training
06 Nov
- Observer training AWS Met console in progress
- New SDS

07 Nov
- BOM commenced training on new SDS

08 Nov
- BOM continued training observers in the use of SDS and met console

6. RESET 16 carry over
27 Oct
- AWS install progressing
- Cal data to Bill Porch

28 Oct
- Additional cal data to Bill Porch

29 Oct
- Additional data and information to Bill Porch

30 Oct
- Additional real time checks as per Bill Porch instructions

31 Oct
- Found faulty cable on sky/cal logger

01 Nov
- Investigation into Skyrad logger oscillation

04 Nov
- Ventilator fan replacement complete

05 Nov
- AWS mast installed
- AWS successful data transmission to Darwin BOM
- RESET 16 carry over tasks complete

7. VSAT install
27 Oct
- Pedestal base installed

28 Oct
- Antenna panels installed

29 Oct

- Grounding kit installed
- Feed horn installed

30 Oct
- Transmit and receive checks in progress
- Awaiting service provider to activate TWP ARCS1 carrier

01 Nov
- Modem and Intelsat configuration and testing in progress

02 Nov
- Authorization for continuous connection has been received from Intelsat
- Formal satellite link performance testing in progress (24 hour)

03 Nov
- 24 Hour test reduced to 14 hour test, performance test successful
- VSAT link operational

8. **Other**:

30 Oct
- IRT wired and installed the same as ARCS2 and ARCS3
- Opaque Perspex window I-Van removed and solid cover plate installed
- WSI air pressure leak rectified (discovered after shutter change, was not a result of shutter change)
- MFRSR logger board change due to apparent failure of new logger board (B1DA installed, 93950 removed)
- ES&H; Fiber cable from I-Van to E-Van raised from ground (tripping hazard) and installed overhead

31 Oct
- MWR software upgrade to V4.12 at 30 Oct 22:20 UTC

01 Nov
- NOAA SMET tower removed

02 Nov
- Lower air conditioner replaced in Y-Van

05 Nov
- WSI light shading screen as per Bill Kornke drawing installed

07 Nov
- MWR software upgrade to V4.13 at 7 Nov   07:00 UTC approx

08 Nov
- Attempted Install SDL Manus software on observers laptop with resultant error message; Unable to install RAM is not adequate. It would appear that 64 meg of RAM is not sufficient to run the site data log program developed by Brad Perkins