

**ARM Nauru Research Station
EMR Visit 0212 Report**

Visit Duration: Dec.16-20 2002

Denig District, Republic of Nauru

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A. Introduction

The main goals of the TWP Operations EMR Visit to ARCS-2 at Nauru were the following:

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 EMR members based on the actual visit, daily reports.

B. TWP Operations Management and EMR 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.

EMR Visits

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

The work on the EMR visit is performed by the EMR 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 EMR 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.

EMR Members

- Rex Pearson (BOM)

C. Tasks Performed

1. Install New LNB N- Type Connector

16 Dec

- Replacement LNB installed – link taken out of service at 0000z and restored at 0130z. Brewster notified at commencement of work and at completion.
- Cable rerun in conduits and connectors replaced as required.

2. Repair AERI

17 Dec

- Replaced hard drive and booted AERI. System locks up when kill process function is initiated. Need to talk to mentors in the morning.

18 Dec

- Discussed problem with JackD. No apparent reason for the hangup. Further advice will be provided by mentors.

19 Dec

- Fault finding continuing – system hangs when the GPS program runs. There is no control of the hatch. These are both controlled from the rocket port.
- The Wisconsin staff are trying to replicate the fault but suspect it may be a hardware fault.
- Email received this afternoon from Ralph Dedecker
- Ray and I ran tests trying to recreate the failure symptoms with the rocket port that you have observed but have been unable to get an exact reproduction of the symptoms. Still, the symptoms you have observed strongly point to a failure of the hardware and a reproduction of the symptoms here are not necessarily possible with our hardware. Unless tests you have done provide new incites, we suggest that you pack and return the computer along with the GPS unit (Sans antenna) and any extra AERI hard drives.
- Nil additional information – will confirm the final state in the morning before dismantling the computer for shipment.

20 Dec

- AERI computer packed for shipment and sent to SGP. This needs to be sent to Wisconsin as soon as possible. They are going to try to return the computer in time for Kevin Wideners visit.

3. Replace V-SAT Router

17 Dec

- Router replaced at 2200Z - 12.16.02. Connectivity confirmed at 2215z

1. Replace Outfitter Satphone Cable

16 Dec

- Antenna cable replaced and system tested – signal strength reading 489 on receive.

2. Check Anemometer Alignment

17 Dec

- Anemometer alignment checked, and adjusted – will monitor over night to check alignment

19 Dec

- Checked data on DMF site – anemometers appear to be tracking better than previously as indicated on the plot page for the wind direction.

3. Anemometer Inventory

16 Dec

- Anemometers on site
- Sno 18425/44678
- Sno 18422/44693

4. Swap Anemometers (Time Permitting)

17 Dec

- Anemometers swapped out.
- New configuration :
- Wind high – anemometer 18425 – prop 44678
- Wind low – anemometer 18422 – prop 44693
- Old units to be packed and sent to SGP for refurbishment.

18 Dec

- Compared raw data from the two anemometers – average readings within 2 degrees over a 3 hour period (av wind speed during this period was 9-11 knots)
- Instrument replacement form on TWPPPO web site under Reset/EMR0212
- Calibration data received for the anemometers – will change logger config tomorrow and post new replacement form.

19 Dec

- Updated coefficients for the wind heads in the zeno logger.
- Placed updated replacement forms and configs on the TWPPPO ftp site under /reset/EMR0212

5. Oxygen Analyser

17 Dec

- Unable to zero oxygen analyzer
- Replaced cell and tested ok

18 Dec

- Replacement cell required as this was the last on site.

6. Skyrad logger not collecting

17 Dec

- Skyrad system not collecting data
- Checked logger communications – ok – was able to talk to logger and download current data. Reconnected to SDS and monitoring.

18 Dec

- Skyrad logger problem traced to collector in SDS system not collecting data from the rocket port. The same problem was associated with the gndrad.

7. Smet logger not functioning

18 Dec

- The Smet problem is due to the Smet logger only having a 2.8 volt internal supply. This was traced to the TRH probe pulling down the supply voltage. The TRH probe was removed and the logger functioned normally.
- Replacement TRH probe installed in SMET and compared to BoM AWS TRH assembly. Readings were within .2 degree on temperature and 2% humidity. (Nil calibration equipment on site to do a full comparison)
- Instrument replacement form on TWPPO web site under Reset/ERM0212

8. Obtain SAM information for Guy Wilcox

19 Dec

- Checked location of GOES files on SAM laptop for Guy. Confirmed the file is located at e:\goes\goes_msg.txt.

9. Wax dome of TSI

19 Dec

- Wax based polish applied to dome of TSI at 0315z, finished at 3040z

10. Check setting of TSI time client

20 Dec

- TSI time sync module setup checked

11. Connect scanner and test – train observers

19 Dec

- Scanner connected to laptop and tested.
- Daily rounds for ARCS2 scanned and sent out by e-mail
- Observers to be trained tomorrow on operation

20 Dec

Train observers on scanner operation, packing data (zip) and emailing of scanner data

