

*4/15/98 departure*

**ARCS-1**

**RESET-3**

**Calibration**

**RESET Members:**

- Helsel-Leader
- Porch
- Scott

**RESET local contacts:**

- Geasa Stoesel, Momote NWS OIC
- Francis Anuma, Momote Observer
- David Akia, Momote Observer
- Ken Zorika, Port Moresby NWS
- Dick Pearse, Lorengau Shipping
- Max Vanuawaru and Tapas Ipau, Harbourside Hotel managers

**Main tasks: (7 days plus monitoring)**

1)Calibration:

- Ceilometer
- IRT
- Cal Data Logger
- SKYRAD Data Logger
- GRNRAD Data Logger
- SMET Data Logger
- SMET Instruments
- MWR
- MPL
- MFRSR Board?
- Use Calibrated fluke multimeter/DVMM
- Calibrate everything in the PRO(CAL)-001.001 (except some procedures, ie MPL, pulsed generator?, PSP forgen vs shaded and unshaded).

2)Instrument Change-out:

- Using newly calibrated radiometers cut cables at stand and install Bendix connectors  
or
- Using old radiometers cut all cable ties and reconnect
- Radiometers (PSP, PIR, MFRSR) - those on the stand and the spares.
- Calibration at Borcal
- Loggers
- Shipping
- ATSS testing?
- Return replaced radiometers to states

3)Comparison Testing:

- MFRSR Langleys (if clear sky) - NEED PROCEDURE
- Radiometers(PSP, PIR)
- NET
- Barometer

#### 4)Semiannual Maintenance

- Ceilometer
- NET
- IRT
- MMET sensors
- MWR fan assembly

\*\*Need to go through manuals

#### 5)Observer Training

- Not this trip.

#### **Additional tasks: (3 days)**

- Daily reporting - Scott
- Audit In - Scott
- 1. Replace MPL - Scott?
- 2. Troubleshoot(replace?) Solar Tracker - Scott
- 3. Ceilometer software mods, system installation, replacement computer - Scott
- 4. Install 3-phase monitor - Helsel
- 5. Install new software on MWR Computer - Scott
- 6. Repair or replace E-Van Air Conditioner - Helsel
- 7. Packing & ship replaced radiometers back to States - Scott
- 8. H/D do routine GENSET Maintenance
- 9. Hook up de-humidifiers in Vans - Helsel
- 10. Inspect Smet tower joint - Scott
- 11. Check D-Van power supply - Helsel
- 12. Replace MWR screen - Helsel
- 13. Change IRT uplooking range setting from -50/+50 to -60/+40-Scott
- Visit Ecom High School - Helsel
- Audit out - Scott

#### **Task schedule:**

- Week 1
  - Daily reporting
  - 1. Mo-Audit In
  - 2. Tu-Replace MPL
  - 3. Tu-Replace Ceilometer computer
  - 4. Tu- Install 3-phase monitor
  - 5. We-Calibrate Cal Logger
  - 6. We-Calibrate Skyrad Logger
  - 7. Th-Calibrate Grnrad Logger
  - 8. Th-Calibrate Spare Rad Logger
  - 9. Fr-Calibrate SMET Logger
  - 10. Fr-Calibrate Spare SMET Logger

- 11. Sa-Comparison test radiometers(PSP,PIR,NIP,NET)
- Week 2
  - Daily reporting
  - 12. Mo-Replace Brusag Tracker
  - 13. Tu-Change out radiometers
  - 14. We-Calibrate SMET instruments(RH/T,ORG,Anemometers)
  - 15. Th-Calibrate MWR(if clear)
  - 16. Th-Install new MWR software
  - 17. Th-MPL overlap correction
  - 18. Th-Other stuff if possible like hook up dehumidifiers, change IRT range setting,E-Van air conditioner replacement, inspect SMET Tower joint, check D-Van power supply, replace MWR screen, etc.
  - 19. Fr-Pack shipments to states
  - 20. Fr-Audit Out
  - 21. Sa-Misc.

**Preparation:**

- Prep Meetings:
  - Date: 03Mar98
  - Date: 12Mar98
  - Date: 18Mar98
  - Date: 25Mar98
  - Date: 1Apr98
  - Date: 8April98 ESH Briefing & final conference
- General planning:
  - Set task list
  - Schedule calibration tasks over 2 weeks
  - Set Visit date
    - coordinate with Integration activities
    - coordinate with other RESET fixes/retrofits
  - Prioritize calibration tasks
  - Test calibration procedures at ARCS-2 A/B testing
  - Train RESET Team in calibration tasks
  - Verify logger purger at Manus works from Malone
  - Schedule H/D to visit 1<sup>st</sup> week of Visit(Jones)
- Documents, procedures, etc.
  - Daily Reporting format with Scott
  - Audit In/Out forms
  - Procedures for calibration (Porch)
  - Drawings, procedures for MPL replacement (Flynn)
  - Procedures, training for solar tracker work(Cornwall)
  - Drawings, procedures for Ceilometer replacement/repair (Flynn)
  - Software, procedures for MWR (Morris)
  - Drawings, procedures for 3-phase monitor installation (Ivey)

- Shipping - ship by (3 week lead) 03/30/98
  - Cal logger?(Cornwall)
  - Voltage Sources?(Porch)
  - Calibrated fluke multimeter/DVMM(Porch)
  - Replacement Radiometers (Porch)
  - MPL replacement laser diode (Flynn)
  - Ceilometer computer (Porch)
  - Ceilometer software (Porch)
  - De-humidifiers(Helsel)
  - 3-phase monitor and bypass switches(Helsel)
  - Replacement UPS batteries (Helsel)
  - Replacement HVAC unit(Helsel)
  - Replacement Anemometer - ARCS-2 spare(Scott)
  - Chilled Mirror Humidity Calibrator(Meyer)
  - Logo pens, pencils and paper(Gallardo)
  - Psion hand held computer(Porch)
  - Adapter cables(Porch)
  - Replacement air conditioners(Helsle)
  - Bendix connectors(Scott)
  
- Travel arrangements
  - Hotel reservations - Smith (60 day lead) by 3/4/98\_x\_\_
  - Rental car reservations - Smith (60 day lead) by 3/4/98\_x\_\_
  - Request Tickets - Smith (30 day lead) by 3/23/98\_x\_\_
  - Request Visa - Porch, Scott (2 week lead) by 4/6/98\_\_\_\_
  - Obtain passports - Malone (3 month lead) by \_x\_\_
  - Request DOE permission - Smith (45 day lead) by 3/4/98\_x\_\_
  - PNG checking account or blank checks to Helsel or send money to Pearse (2 week lead) - Jones by4/6/98\_\_\_\_
  - Arrange "Emergency Evacuation Insurance" - Scott, Porch, Helsel(2 week lead) by 4/6/98\_\_\_\_
  
- Shots, medicines
  - Hepatitis B (6 week lead) by 3/9/98\_\_x\_
  - Hepatitis A (2 week lead) by 4/6/98\_x\_\_
  - Malaria (2 week lead) by4/6/98\_\_\_\_
    - Larium or
    - Doxycycline
  - Tetanus (2 week lead) by 4/6/98\_x\_\_
  - Typhoid (2 week lead) by 4/6/98\_x\_\_
  - Polio (2 week lead) by 4/6/98\_x\_\_

- MM&R (2 week lead) by 4/6/98\_x\_\_
- Personal preparation
  - CPR/First Aid class (2 month lead) 3/9/98\_x\_\_
  - Cash advance(2 week lead) 4/6/98\_\_
  - Lorengau blank checks(2 week lead) 4/6/98\_\_
  - ESH briefing by Barnes 3/17/98\_\_
  - Review ESH manual 3/13/98\_\_
  - Prescriptions
  - Pack office camera
  - Pack video camera?
  - List of local contacts, numbers
  - Personal information to Jones

### **Action needed this week**

- Ask Hart about ARCS-2 anemometer to ARCS-1(Jones)
- Dehumidifiers Installation Plan(Helsel)
- D-Van power supply checklist with Zirzow(Helsel)
- Order logo pens, pencils and notepads(Barnes)
- Software MWR upgrade by remote switch on(Helsel)
- Prepare procedure to change uplooking IRT range setting(Scott)
- Look for Australian source for UPS batteries(Helsel)
- Request Australian Visa thru United (Porch)
- Forward emergency evacuation insurance to Team(Jones)
- Do plan to build cable adapters - form old to new style connectors-impulse to C Com for loggers?(Scott)

### **Upon Return**

- Prepare Visit Report - Scott
- Clean up Audit In/Out form - Scott
- Debriefing meeting - Jones

### **Other Stuff:**

- SDL computer battery replacement (Perkins, see E-Mail)
- IRT Rain Shutter? (Morris, see E-Mail)
- ISS RASS repair? (Ask Johnston, see E-Mail)
- Replace MWR heater screen.(Ask Helsel?)
- SMET aspirator fuse needs to be added (see Zirzow memo on data logger changes needed-8/19/97).
- Data logger fix similar to one done 8/97 on ARCS-2 - loose RS232 connections. causing power reset at power spikes resulting in lost data (see Zirzow memo on data logger changes needed-8/19/97).

- “I believe we may want to rethink exactly where we fed the DC power from to the field battery based systems. If we do this we may be able to reduce parts count and increase reliability.”? (Zirzow, see E-Mail)
- GENSET battery relocation?