

**ARM Research Station  
Site Visit 0308TMN Report**

Visit Duration: 18 August to 02 September 2003

Vava'u, Tonga  
and  
Papua New Guinea National Weather Service Momote Station, Manus Province  
and  
Papua New Guinea National Weather Service Headquarters, Port Moresby  
and  
Denig District, Republic of Nauru

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## **Introduction**

The main goals of the TWP Operations Site Visit 0307-TMN Visit to Vava'u, Tonga, ARCS-1 at Momote Airport on Manus, PNG, PNG National Weather Service Headquarters and ARCS-2 at Nauru were the following: 1) Address observer issues with the PNG National Weather Service personnel 2) Discuss financial issues with the Nauru government 3) make presentation to Pacific MET directors at conference.

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

### **A. TWP Operations Management and Site Visits**

Site Visits are scheduled on approximately four-month intervals and are focused mainly on routine maintenance, instrument calibration, instrument replacement, and training. Sometimes non-routine visits are needed for technical tasks such as emergency repairs, retrofits, and/or the addition of new instruments. A formal audit-out is performed before departure.

The work on the Site Visit is performed by the Site Visit 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 Site 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.

#### **Site Visit Members**

- Larry Jones – Tonga, Manus, Port Moresby and Nauru
- Jim Mather – Tonga, Manus and Port Moresby
- Tau Gabi – Manus and Port Moresby

## B. Tasks Performed

### 1. Vava'u, Tonga

19 Aug

- Attended South Pacific Region Environment Programme (SPREP) sponsored Pacific Met Director's meeting
- Met with PNG NWS director, Kevin Luana to discuss handing off some of his TWP duties to his subordinate, Robert Thompson.
- Met SPREP director F. Vito Lui.

20 Aug

- Presented TWP/ARM overview to Met Directors with Dr. James Mather of Pacific Northwest National Laboratory.
- Met with Kim Nitschke of SPREP to discuss his future at SPREP and continued involvement with TWP.
- Mather met with representatives from the Solomon Islands and Fiji on possibility of installing radiometers at one of their stations.

21 Aug – 23 Aug

- Travel from Tonga to Manus, PNG via New Zealand/Australia

### 2. Manus

24 Aug

- Took the new ARCS-1 Observer, Alex Gabi, through the TWP Observer Orientation Training course.
- Replaced safety plan in site sign in folder with up to date plan.
- Reviewed overseas calling, specifically how to call into the weekly Operations Teleconference. Posted instructions in the site safety manual.
- Delivered new Observer training manual and new ARCS-1 instrument manual.
- When we watched Waffi do the morning launch Waffi was concerned because he could not control the H<sub>2</sub> gas flow with the electrolyser V15 valve. The line to the RBL had constant gas pressure in it regardless what he did with valve V15. After communication with John Glowacki in Darwin, Jim Mather determined that there was an open valve that short circuited the system so that the H<sub>2</sub> in the storage tanks was wide open (probably there to enable bypassing of the electrolyser to launch balloons during electrolyser maintenance). Once closed the system worked fine and gas flow could be controlled with valve V15. Mather was definitely my hero!
- Jones replaced the SIM card in the Iridium phone and it works fine now. Old Card number 8988169312000759435, new sim card number 8988169312001411184. The new Iridium phone number is now 8816-3155-5875. Cheryl Straub is customer ID#1301. The new process to make a call is:
  1. Go to an open area, extend antenna (make sure it is punched tightly into the hand unit.

2. Press and hold “concentric circles” key to turn phone on. It will say “registered” when ready.
  3. Press and hold “0+” key. Then a “+” appears on the display.
  4. Enter the phone number to be called after the “+” by “country code – phone number”, i.e. “+ 1 505 667 1186”.
  5. Press “ok” to call.
  6. Press “ok” to end call or “concentric circles” key to turn phone off.
- Tau Gabi meet with Observers and Security Guards.

## 25 Aug

- Did a site safety walk through with Observers James Pepa and Alex Gabi. Found several items that need attention. Documented the walk through on the Site Inspection Checklist that will be posted on the TWP Safety Database.
- Met with shipping agent Dick Pearse in Lorengau.
  - Delivered site key for Pearse use.
  - Discussed a part time helper for Pearse – he is hiring a person.
  - Discussed transport – he will use a rental car(with a driver) when he needs to go from Lorengau to Momote.
  - We reviewed the shipping congestion at Momote and he believes most of the problems with POM and communications have been solved, although he thinks the Observers need to pack equipment better and in a timelier manner. He also said it is sometimes hard to get the Observers on the phone.
  - He said that the “commercial invoice” fonts from LANL customs (Joy Torres) are too small for him to read.
  - He said that Ginger at Interconnex was sending attachments that are too big for him to download and includes much more material then he needs.
  - He now has WinZip on his computer, but says that the enormous files from Interconnex are clogging his email downloads – there is way more paperwork than he needs. He does not want a workstation at the ARCS site.
  - Pearse delivered a manila folder full of receipts for Straub and said he would email her an outline of the accounting for these receipts.
- Attached LANL property stickers on the AWS and the VSAT equipment.
- Found an old SIM Card #90110013845D – probably for the Outfitter SAT phone.
- Tau Gabi met with the contractor making repairs to the Observer homes.
- Held a working meal with the Observers to discuss site issues.
- Mather observed morning AND night launches to help him understand the problem with the fragile RS90 sondes. Under high winds the sonde sometimes bangs against the side of the RBL enclosure when the balloon rises. Mather proposed a modification to the method used to prepare the sonde string and it seemed to get the sonde clear of the RBL quicker. He also is considering recommending that balloons be launched by hand(and therefore bottled gas) when winds exceed 10m/s. But he

wants to do an analysis of failed launches before enacting this due to the extremely high cost of bottled gas.

- Visited the Naringale School and talked with the teachers. Mrs. Stephens was the only teacher left from last year. Other teachers and headmaster were transferred in. The school needs to build shelves for library books. Unfortunately, the school was vandalized last week and morale was low.

27 Aug

- Observed another balloon launch.
- Traveled from Manus to Port Moresby.

### **3. Port Moresby**

28 Aug

- Met with Kevin Luana, Tau Gabi, Robert Thompson, and Jim Mather at the PNG NWS headquarters office.
  - Construction on the Observer homes is just starting.
  - The Momote groundskeeper was “retrenched” and I agreed to check with Straub and contract administrator Pete Ayala to see if we could add a person to the Security personnel list – Peter Poesan.
  - While in Manus, Tau Gabi, fired two non performing Security personnel and hires two new ones.
  - CAA will be making a vehicle available to shuttle Observers between the site and their homes during inclement weather.
  - Hymson asked on Alex Gabi’s behalf if they could pay a stipend to the family housing Alex until the Observer house is available. I indicated that it is up to the NWS management to decide how they spend the 10,000 kina annual budget for Observer transfers.
- PNG NWS organization below Luana it as follows:
  - POM Operations/Forecasting – Jimmy Gamoga
  - Observers, outer stations – Tau Gabi
  - Climate records, monthly forecasts – Sam Maiha
- Robert Thompson indicated that he feels the communication lines between him, Pearse, the POM customs office, and Interconnex are ok now. He was able to install WinZip on his computer and a virus protection.
- Went to PNG communications office, Pangtel, and obtained a copy of the license to operate the VSAT at the ARCS site at Momote. License #PNG 78-0-14.
- Went to PNG Telikom headquarters and talked to Marie and obtained an up to date invoice and submitted a request to get an itemized billing of all calls from the ARCS-1 station in Momote.
- Went to the Westpac Bank to check in with Imelda Bukon on the TWP account and obtained confirmation of recent bank transfers. She had been unable to send them earlier due to a fax line problem.

- Obtained up to date financial receipts from Luana for delivery to Cheryl Straub.
- Jim Mather reviewed the method used by the POM NWS office of sending sonde launch data to the GTS. Although they are not currently launching radio sondes (they don't have the money to buy them), when they do operate the radio sonde data is transmitted to the Digicora (MW11) and once the sonde transmission terminates the operator presses the send button on the Digicora and the data file is transferred to a PC on a "Hyperterm" program the BOM installed on the PC. This automatically transmits the file via land line to the BOM office in Melbourne where it is put on the GTS. TWP wants to do a similar process at the ARCS-1 and ARCS-2 sites.
- Jim Mather met with one of the weather forecasters in POM and was able to view general PNG met data.
- Looking at a map in the PNG NWS office I found out that the highest mountain in PNG is Mt. Wilhelm at 14,793 feet, taller than any mountain in New Mexico.....and it rises from a valley at 400ft elevation in the horizontal distance of 30 miles – pretty dramatic!

29 Aug

- Travel from Port Moresby to Brisbane.

30 Aug

- Prepare reports, email.

31 Aug

- Travel to Nauru. Was told by Adrian Young of Air Nauru that the leg of the flights to and from Melbourne may be dropped in September.
- Introduced myself to the President of Nauru, Reme Harris in the Brisbane airport lounge and requested appointment.

#### **4. Nauru**

01 Sep

- Met with Nauru Secretary of the Department on Economic Development ( DED), Joseph Cain, and administrative assistant, Andrew Kaierua, concerning retrieving TWP's money from the Nauru Phosphate Company (NPC), site issues, ARCS observer pay, personnel problems.
  - TWP funds were inadvertently placed in the NPC account instead of the DED account. Cain sent a letter(dated 21Aug) to the NPC Director, Vinson Detenamo, to ask him to transfer the misplaced funds back in the DED account. Since Detenamo had been off island for weeks, he was sure he had not yet read it.
  - Discussed possible alternate plan to get funds to the DED employees who manage the ARCS-2 site by using a local importing company, McKay and McKay.
  - Discussed personnel issues such as poor performers – Cain said he would talk with Nic Duburiya.

- Cain repeated his commitment to keep a clear division in responsibilities between Nic and Andrew. He also said that he is expecting not only rosters from Nic, but time sheets of time on duty. No overtime will be paid without submittal and approval.
- Met briefly with President Harris concerning the misplaced funds. He took notes on the amount and said he would take care of it. He said that the Phosphate ship would be in the next day and he would take care of it at that time.
- Went to the ARCS-2 site and put property stickers on the AWS and VSAT. Replaced the site safety manual, and replaced the Observer training manual and the Instrument manual.
- Met with all the Observers and did a site safety inspection walkthrough (see site safety inspection report).
- Went to Bank of Nauru for our appointment with Bank President to withdraw the \$5K still in the TWP account. Turns out the Bank President, Goswami, left the island on the flight I came in on. The person in charge, Bereka Tanaera, said they had no cash and she would have to talk to Goswami anyway.
- Kaierua and I met with Ian McKay of McKay & McKay. He agreed to let us use his company to transfer salary funds from the Nauru House to the ARCS Observers.
- Went to our appointment with the Nauru Finance Minister, Marques Stephen, only to find out he too left the island on the flight I came in on too. There was no one in the office that could help.
- Went to meet the NPC Director, Vinson Detenamo, to get him to take action on returning the misplaced funds back in to the correct account. He was in a board meeting and said he would be out a 4:00. Thinking myself crafty I returned at 3:00, but he had already left for the day.
- Met with Tim Anagenia of NPC to arrange for repair of the infamous “cherry picker,” that always seems to be in need of repair. I offered to help with the repair to enable the land line work to continue. We also ordered Diesel for the ARCS-2 site.

## 02 Sep

- Received petty cash expense receipts from Kaierua. Among the receipts was a receipt for the VSAT license fee. Delivered additional petty cash to Kaierua.
- Met with Cain again to go over role of Nauru House in Nauru financial process to prepare with talks with contract administrator, Pete Ayala at LANL.
- Went to office of Detenamo at NPC again and waited, but he did not show.
- No progress on SAT phone government call reimbursements. No progress on land line.
- Asked Kaierua to arrange the spare Skyrad stand to be moved to from the old NIES site to the ARCS-2 site. Also agreed to let the landowners have the NIES site fencing.
- The emergency supply of diesel drums are stored on their side under the covered area outside the site. I asked Andrew and Franklin to organize contract help to get them all placed on the spill containment stands. If the shed outside the site is not

completed in the next week, I asked them to put them onsite behind the AERI shelter. I also directed them not to stack the drums so that they could be accessed WITHOUT engaging a forklift.

- Travel to Brisbane. Coincidentally, 21 mostly Afghan, and a few Iraqi asylum seekers were crammed in the back of the Air Nauru flight to Brisbane. We were greeted by TV and newspaper reporters, cameras. There was even a TV helicopter hovering the airport. These were the people that Australian President Edwards vowed would never set foot on Australian soil. There are still 300 some refugees remaining on Nauru. What struck me when I watched them at the airport in Nauru before departure – I thought they were Europeans – as ignorant as it may seem they didn't fit my preconceived vision of what Afghans and Iraqis would look like. It was a big story on the TV news and the papers the next morning.

#### **D. Follow up action:**

- AWS maintenance task and schedule w/BOM, Apple
- AWS data comparison with SMET tower(Nauru) and manual observations (Manus).
- Can AWS read units in m/sec instead of knots? Can it have more accuracy in the readings?
- Sonde data to GTS via internet (Manus and Nauru) – via BOM at Melbourne?
- SPREP contract mod.
- Nitschke future with TWP.
- Safety Manual updates needed.
- Instrument and Observer Laptop virus protection.
- Troy buy Alex boots – size 8.
- Excel book for Robert Thompson.
- Pearse said that the “commercial invoice” fonts from LANL customs (Joy Torres) is too small for him to read.
- Pearse said that Ginger at Interconnex was sending attachments that are too big for him to download and includes much more material than he needs.
- Purchase and ship 2 flashlights (rechargeable) to Manus.
- Check with Ayala, Straub – add a groundskeeper to the security guard payroll?
- The Manus Observers asked for new uniforms – I agreed. But no new ones for the Security Guard.
- Need to add phone numbers to SAT phone/fax for Nauru House for Joe Cain use.
- Need to address Menen Hotel Room 201 status.
- Need to revise financial process of paying Observers at Nauru if possible.
- File Site safety inspections to the TWP Safety data base.
- Follow up with Cain on misplaced funds.

- Notify LANL property that the pn stickers were attached to the Manus and Nauru AWS and VSAT systems on site.