

ARM Nauru Research Station

Site Visit 0409N Report

Visit Duration: 20 Sept to 30 Sept

Nauru Island, Republic of Nauru

SV0409N

Site: Manus	Proposed Dates on Site: 9/20-9/30
Team Members: • Rex Pearson • Troy Culgan	Ship or hand carry prior to SV: Cal Gear Digicora Parts Items to purchase and ship to Nauru. DB9 female plugs and sockets - solder type. 12 volt 17AH battery for UPS - 140mm x 48mm x 48mm size (An APC UPS is running the genset monitoring. "This was an old UPS left on site that I got going with the old ceilometer battery. Ultimately this will be replaced as part of the project.)" 1 Spare TRH Van sensor (Rex should have 2 spares at Darwin). Safety Shield for Electrolyser Maintenance 3 Campbell Datalogger spare power supplies Brakes for pickup truck Cable ties for balloons
	Safety: Major Hazards: AC electricity. Hazard Controls: ASNZS 4836/2001-Safe Working on LV Electrical Installations, 2 man rule.

Site Tasks

Priority	System	Date Completed (dd/Month)	Service Time in Hours	Tasks/Assoc Hazards-Controls	For
1	CAL			Record configurations before and after cals	
		26-Sep-04	2	Sky.gnd and smet configs recorded, before any changes	
		28-Sep-04	2	Final configurations recorded	
2	CAL			Provide Cal Kit inventory list	
		3-Oct-04	3	Completed	
3	DAQ			Calibrate all Instrument loggers and Spares	
				N/A loggers within Campbell calibration period, refer Darwin cal for details.	
		23-Sep-04	3	Commenced on setting up a laptop to run the Campbell software for comparisons. Most of the spare laptops appear to have flat bios batteries preventing them from booting up.	
		24-Sep-04	6	Completed setup of logger net pc, downloaded USB stick drivers and completed installation on the laptop (this is for transferring the data)	
4	CAL			Calibration/comparison skyrad radiometers	
		24-Sep-04	6	Radiometers setup on cal stand, logger software collecting data.	
		26-Sep-04	1	Radiometers swapped out as per Bill Porch instructions.	
		27-Sep-04	2	Collecting data for comparison	
		28-Sep-04	4	Remove all instruments from Skyrad stand & tidy up	
5	CAL			Calibration/comparison grnrad radiometers	
		24-Sep-04	1	Gndrad inverted for comparison	
		27-Sep-04	1	Collecting data for comparison	
		28-Sep-04	1	Gndrad instruments returned to normal @ 0115z 28Sept04	
6	SMET			Calibration/comparison smet instruments and logger	
		25-Sep-04	6	Commenced checks on Smet instruments	
		26-Sep-04	1	Smet completed	
7	BBSS			Upgrade DigiCora/ Electrical- ASNZS 4836/2001	
		28-Sep-04	4	Commenced upgrade of stby digicora	
		29-Sep-04	6	Completed stby unit upgrade - problems with serial communications resolved	
		30-Sep-04	5	Main digicora unit upgraded. Monitored 0000z launch to check equipment.	
		1-Oct-04	3	Modified BBSS antenna as per instructions and re-assembled. Tested on launch.	
8	AWS			Perform Maintenance/None	
		26-Sep-04	6	AWS maintenance/calibration completed	

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10	MWR			Repair or Replace MWR Laptop/None	
		23-Sep-04	4	Replace MWR laptop with Dell computer. Rearranged shelves to accommodate new equipment as they would not fit in existing locations. Data is being collected by the laptop but collector is not collecting the files. As there is no data loss I will leave it this way so we can sort out the problem. An email has been sent to Vic Morris.	
		24-Sep-04	4	Confirmation that user name and password has been changed on collector and data is now being collected. Time server software (ntpd) is shutting down after about 3 minutes. The service can be manually restarted but shuts down again. Event logs show the system is having a problem resolving the DNS. Changed the name of the primary server to its IP address and the NTP software has synced to the NTP server. (This may relate to the high CPU usage the PC is having.)	
		24-Sep-04	0.5	Data on the snapshot page is not indicating correctly. Is this correct or are there other configuration changes required ?	
		25-Sep-04	2	MWR now reading correctly - checked time sync is still working correctly.	
		26-Sep-04	1	Backup image of hard drive made with Ghost. Trained Franklin of use of Ghost should a restore be required.	
11	AERI			Computer Filter Change Out	
		26-Sep-04	0.5	Filter washed and cleaned	
12	AERI			Change out Blower Belt	
		2-Oct-04	1	Belt changed and motor alignment checked	
14	BBSS			Replace Velcro Strap Sonde Retainer by BOM	
		3-Oct-04	1	Replace velcro strap	
15	CABLES			Inspect Cables per Inspection Procedure - This was due in March 2004	
		27-Sep-04	2	All cables inspected, majority had been changed as part of the logger changeout.	
16	GENSET			Change out Racor Filters in Fuel Transfer Dolly	
17	GENSET			Change out Fuel Tank Gauge	
		27-Sep-04	0.5	Changed	
18	GENSET			Change out Fuel Gauge Cover	
		27-Sep-04	0.5	Changed	
19	MPL			Change out Laser Diode Module (This is on a 1 yr change out and is due on Nov 10)	
		27-Sep-04	1	Searched for spare module, none found, please advise if one was shipped	
20	MPL			Change out Two Shutter Timer Batteries (AA)	
		23-Sep-04	0.5	Batteries changed and time checked	
21	VANS			VANS - Assess and Change out E-van TRH Sensor if needed	
		23-Sep-04	0.5	Checked sensor and found a loose wire in the loop sensor. Tightened and will monitor	
22	WSI			WSI - Change out Corrosion Prevention in ARC Drive	
		1-Oct-04	0.5	Completed	
23	WSI			WSI - Replace Dehumidifier Anticorrosion Cartridge	
		1-Oct-04	0.5	Completed	
24	WSI			WSI - Replace Metal Screen Filters in Blue Box	
				A/C not used	
25	WSI			WSI - Replace Metal Screen in White Box	
		1-Oct-04	0.4	Completed	
26	WSI			WSI - Replace ARC Drive	
		1-Oct-04	0.5	Spare not located on site	
27	WSI			WSI - Replace Desiccant in Camera Housing	
				Seal normally broken when filters changed, will wait for filters on next visit ??	
28	WSI			WSI - Change out 450 & 650 nm Filters	
		1-Oct-04	1	No filters located on site	

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29	Other			Verify the following are on site: MSDS for Battery Acid Rubber Dishpan for secondary containment of battery acid container Full Face Shield Acid Resistant Full Body Apron Acid Resistant elbow length rubber gloves Enclosed container for storage of protective clothing	
		27-Sep-04		Following equipment is available for H2Gen maintenance	
				Full Face Shield	
				Acid Resistant Full Body Apron	
				Acid Resistant elbow length rubber gloves	
30	Other			Install piece of perspex 19¼ x 16 inches. This will prevent access to the 110v Liebert UPS protected outlets.	
		26-Sep-04	1	Perspex shield installed. Access to 110volt UPS outlets covered, access to 240v available over top of shield	
31	Other			Install 10 yr smoke alarms in the Aeri, X, Y, & Z vans.	
		27-Sep-04	0.5	Completed Aeri van	
		27-Sep-04	0.5	Completed Y van	
		27-Sep-04	0.5	Completed Z van	
32	Other			Relay the odometer reading on the pickup truck and Determine if Genset fueling is taking place according to procedure using the barrels on site.	
		25-Sep-04	0.25	Odo reading is 239747	
		28-Sep-04	0.5	Observers indicate refueling is to proceed	
33	Other			Reload EMWIN Software as files are corrupted. Will need to get the details from Colin Schultz	
		3-Oct-04	2	CD Drive not working on Emwin computer - unable to proceed further	
34	Other			Bottles in H-Van need to be labeled to indicate content	
35	Satellite sys			Check dish alignment to see if there is clearance to drop the elevation down 4 deg	
		23-Sep-04	0.5	Alignment checked and there is still clearance from obstructions if the dish is dropped 4 degrees in elevation	
36	MMCR time			Check MMCR time (Solaris computer)	
		25-Sep-04	4	Ron Red advised that Brian Ermold had detected the MMCR solaris computer was 1 minute out. Checked the computer and manually adjusted the time. Checked why the time sync was not working and it appears the rdate time service cannot talk to the time server. (Checked Manus as a comparison and it works correctly). I cannot obtain a telnet connection on port 37 from the MMCR to the NTP server (or collector to NTP) whereas this works at Manus. According to the NTP server handbook it should accept connections on port 37. Still investigating.....	
		30-Sep-04	3	Replacement time server arrived, programmed to network addresses and checked. MMCR is now able to time sync using the rdate command.	
		1-Oct-04	4	Found errors in the message log, found the source of the problem and corrected, also changed to FQDN to the correct name, this cleared all error messages in the log after a reboot.	
37	EH&S			Fit replacement emergency lights in D & E Van	
		25-Sep-04	2	Replacement units fitted and on charge, to be tested tomorrow	
		26-Sep-04	1	Completed installation of emergency lights and tested.	
38	H2Gen			Fit replacement batteries in Teledyne O2 sensor	
		25-Sep-04	2	Teledyne O2 sensor not holding charge. Replacement batteries fitted and unit charged.	
39	Ceilometer			Check Ceilometer calibration	
		27-Sep-04	1.5	Ceilometer calibration checked and config recorded	
40	Suominet			Install Suominet receiver and met station	
		29-Sep-04	8	Measured and had brackets made to hold equipment, painted brackets	

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		30-Sep-04	6	Completed install of Suominet system and connected to network. Local web page of the system indicates it is receiving satellites and logging data. Need the data confirmed so we can ensure all is working correctly.	
41	EH&S			Complete tasks on safety list	
		2-Oct-04	6	Completed all tasks on Nauru safety list	
42	Audit out			Complete audit out for site	
		2-Oct-04	3	Commenced audit out	
		3-Oct-04	7	Completed audit out	
43	SHIPPING			List items to be shipped following visit/ None	
		28-Sep-04	2	Radiometers packed for shipment to SGP	
		28-Sep-04	1	Cal logger packed for shipment to Manus	
44	FUTURE NEEDS			List items needed for future visits (spares, etc)/ None	
		2-Oct		Spare belts for AERI blower (6A139 A27)	