

I have been involved in two of DSTO's major projects, in both cases in the very early stages and in both cases I had left before they amounted to anything. The beginnings of the OHR were already underway when I joined Radio Systems in 1969, there was one other thing going and we were also (the building that's is) involved in and that was the Barra sonar buoy project.

There were a few people looking at the OHR, it was just a glimmer on the horizon at the time.

All that not with standing my brief involvement with what was to become the OHR system goes back to the time Fred turned up in Radio Systems with his PhD project. It was as one might expect of a uni project; a bit below the standard of construction we had come to expect of equipment at work. There were all kinds of things hanging inside the rack as well as all kinds of voltages loose inside it. A flurry of activity saw the worst of it covered and insulated from the operator. There is a school of thought that holds that

Fred & \$800 showed that OHR was feasible,
DSTO, and \$800k showed it was possible and

Telstra and \$800M showed it couldn't be done by a Telecom company.

The whole project started with the path measuring business. A transmitter site was set up at Mirikata, about 80 miles down the range from Woomera. A receiver site was set up at Broome. The site at Broome was permanently manned, well initially on a 6-week basis. You did some weeks training on the job at the start with the guy you were relieving and then trained your replacement at the end of your tour. As is the usual fashion we were told we would all be doing a turn at Broome to spread the load etc, the usual flannel that we all knew would work until someone wouldn't do his turn. Then the people that had been would have to do it double. Initially however there were a bunch of people happy to do Broome and as I didn't want to go anyway I was happy enough with that. Eventually one guy put his hand up for an extended period and moved up there with his family for a year. So Broome then it ended up not being the problem we thought it might be.

The Mirikata site was a slightly different affair, it had a chirp sounder installed near a large antennae array and about 200yds away was Fred's baby. The chirp sounder ran constantly for 3 weeks and by sweeping through the useable spectrum which was I think DC to 30 Mhz and this provided at the end of the day ionographs of the path to Broome. Then for a week each month 2 guys from work went up and ran a weeks calibrations. One guy had the Chirp van and the comms link, the other had Fred's baby. Essentially at predetermined times the normal run was stopped and in conjunction with the guy in Broome particular frequencies were set on the Chirp and were logged at Broome. It also meant 2 guys from Salisbury doing regular trip up to Mirikata. The same two, every time, out of convenience. After about a year of it they "spat the dummy" so to speak and Ken McMahon and I took over from them. Ken had already done one tour at Broome, so he didn't need to put his hand up for Mirikata. He must have wanted to be there. It turned out I got the chirp sounder and the comms and Ken got Fred's unit. As Fred's machine was a difficult and complex device Ken went up late in the week for some one on one instruction on the device. Late seemed to be the order of the day, the plane got in late and all of that so Ken had a solo night drive to Mirikata. The Chirp stuff was pretty easy to use and I got a bit of instruction from Reg Phipps and that was that.

My stuff was set up in an ASCO hut, a conventional but portable building. Ken had a 4-wheel van. It was high of the ground and was on truck tyres and was made some 20 years prior to our arrival. Both were provided with an aircon unit. We

got a week at Mirikata every month for about a year. The work schedule was fairly well fixed as to the work time, some early starts and some late. It was all part of a master plan. Separated by the couple of hundred yards between the vans it was at times a little slow. One had books and I started the week with a couple of cartons of cigarettes. There was an intercom between the vans and my van had a fridge in it and the tea making kit. So a couple of times a day I would make tea and Ken would toddle up, we would chat and that was about as exciting as it got.

It was mostly pretty uneventful, though we did have a couple of very windy times. This had little effect on the ATCO hut but the caravan would move a bit with the wind and the racks inside would shake and give Ken some cause for concern. The windier it was the more agitated the van became. There were killer volts in some of the stuff in that van. I never regretted taking the hut job.

Some notes on the camp, it is about 80 miles down range, basically at the end on a long line Kine-theodolite stations. It could provide permanent occupation for about 30 people, normally it had about 6. There were a series of 1950 style besser-block units, six single rooms coming off a long corridor with the usual 1950 style bed wardrobe and desk/chair that was the same wherever you went. Each room did have an individual aircon unit. Each block also had a kitchen and a common room with a selection of old magazines in it. There was a radio there but no TV and videos were 10 years into the future. Read a book or find a crossword puzzle. There was also a recreation room that did have a full size snooker table in it and of course a bar. There was a laundry with a couple of the old indestructible Pope washing machines to do your washing in. There was a Hills hoist too; the system never provided pegs or soap powder. Often there was soap powder left behind but pegs, never. There was a local power station that was designed to power a much larger facility and according to Bob Edgar mainly shoved its power into a large resistance bank that tried to provide a suitable load for it. The camp had a full time electrician, a bloke named Chook, while I didn't have much to do with him he did take Ken out looking for opals. Ken kept his day job so they couldn't have found too much. The power station was so big that camps electrical requirements were almost incidental. The camp also came with as pet emu, this animal was completely unfazed by people and it had a tendency to walk up to you and just look at you if it felt like it. Given that it was the same height as you, had a beak that looked like a shovel and strange beady eyes it was a disconcerting experience at times. I have never since been tempted by the idea of a pet emu. I am using the word pet here for lack of knowing what to use. I never actually patted it on the head or rubbed its tummy or did anything remotely pet like to it. I found it best to talk nicely to it and then wander away at the first opportunity. If it ever attacked anybody the camp manager must have hushed it up, who knows, there is plenty of desert out there to bury the bodies and the emu did have a maniac look to it. Most camp managers I recall had a bit of a maniac look about then too. Too long in the bush I suspect.

The camp had a permanent manager and his wife was also employed there as the telephonist etc. they must have made a fortune being on 24/7 duty as far as I could tell. The camp also had a large mess hall and a billiard room and of course a bar. The mess hall had a cook if the numbers were up but otherwise it was DIY. If one knew when the mess wasn't going to be there then we ordered up whatever we were going to eat for the week and sort of learnt to cook or did as well as one could. The food would be collected in Woomera prior to heading off down the range and its ordering was just a part of the trial preparations. Lots of nice steaks were the starting point for any order. Usually if there was no cook then there were very few people in the camp

and so there was no conflict over the kitchen usage. The only thing one had to do, and ignoring this was to invite the wrath of the manager, was to clean up the kitchen afterwards. Upsetting camp managers was not something one did if you wanted to live in the camp. We got into trouble once for a kitchen clean up that was not up to scratch and once for coming back from our site to fast down the dirt road and covering the campsite in dust.

A note here on camp managers. There seemed to be a bit of difficulty in recruiting camp managers, I am not sure why but the end result was that once installed as a camp manger it was almost impossible to leave as there were no replacements. As a consequence of this shortage it also meant that they could do pretty much what they wanted, as management had no one to replace you with. So while there were a couple of people in the system that you, as manager had to be nice to but the rest could be treated as you like..... The more remote the site, the more secure your position was. This sort of reasoning tended to apply a bit to all people in remote sites, more so in the early days when getting people there was the sole consideration. A touch of the foreign legion here, I suspect there were a few people that were hiding from who knows what up at Woomera and I think the folks in charge there didn't look too hard at where people come from lest they left. Camp managers tended to be a bit autocratic, perhaps not a bad way to run it but there were few constraints should things start to get out of hand. It could get ugly, not bad if you were only there for a week and we could escape back to Salisbury. Not that this was much of a problem for us.

There was during these years a regular air service from RAAF Edinburgh to Woomera. Usually the plane was a Convair; there was the infrequent DC3. It was basically the least desirable aircraft they had flying at the time. Air lines of South Australia, but on a contract with the department controlling the tickets. You could not go to Woomera without an OK from the department. Once at Woomera it was either drive a Holden Belmont to Mirikata or take the Otter. This was a bit dependent on what one did with the car, sometimes it went back to Woomera and sometime it got left at Mirikata. It was an 80-mile drive on mostly dirt roads from the range; this is what we often did. One trip was memorable as I was driving and the car seemed to be particularly scatty on the roads and I kept going slower and slower while moaning to Ken about the evil handling Holdens we had to put up with. I finally stopped and got out to see what was wrong and discovering the rear tyre was mostly not there and the remainder was a smoking mess. The normal tool kit with a Belmont is not flash and the best bits also had been lost or sold. We at least had a jack and a bolt that had been filed a bit to make the jack work. No wheel brace but a tube spanner the right size was there and there was another bolt that while it bent a bit in use but did work. Fortunately the wheel nuts were not rusted on or torque to 10000 ft/lb as sometimes happens and we were able to remove the wheel. Luckily we had a spare, not all cars did and it was inflated. All spares were inflated when the car was new often that was the last time they were checked. Sometimes maintenance is a bit rough in the bush. The approach seemed to be if it's broke then fix it, otherwise don't even bother looking at it. I guess we were lucky with what we had; anyway someone would have come along in a day or so. This was in all the trips we did; the only time we had any trouble.

Also there were a few aircraft trips too, always in the Otter. This was a single but very large engined device; they looked to be drawn by a 10-year-old and were a STOL machine. They were capable of taking off in the width of a Woomera runway, they occasionally did. They also landed at about 20 knots. It was all very amusing.

We came back on a day that was very windy and we got to Woomera and did a lap of the golf course, as the pilot being a keen golfer was more interested in how the golf course was weathering the blow than anything else. The golf course was not faring too well apparently. Then we came into the circuit, he looked at the main runway and decided that was not good but there was a dirt track that went between the runways and was directly into the wind. He lined up on that and throttled back to nothing hauled out some flap and we just sort of stopped flying forward and just went down like in an elevator and landed without any forward velocity. Having got it on the ground he gave it a bit of power to make it go forward and we taxied along the track to where we met the runway, out onto the runway and then with a bit of brake and rudder he swung it about to head to the main building. The wind weathercocked us back to the heading of the dirt track. He tried again with exactly the same result and gave up, he called up the main building and said send a car out and he shut the plane down. On departing I got ane foot tangled up in the bottom of my flairs (This was 1970 remember) and came dreadfully close to a nose-dive from the Otter to the runway. So much for fashion.

I did also manage one ride in a helicopter, my first flight in one of them. This was an Alouette. There are two things I remember about it. Wonderful view, like a flying tea tray and oh so flimsy. The passenger door was about 5 square foot of perspex and aluminium, weight about 8 ounces and flopped about in the breeze and only seemed solid once it was closed. The helicopter itself was a revelation it lifted up, then went backwards and tilted forward and then moved off. All very strange and wonderful. A wonderful trip back to the range at about 1000 ft up. You could see everything, in terms of visibility there is nothing like them. Especially these bubble cockpit sort of machines.

It was always good to be going home at the end of the week. The flight to Edinburgh was about an hour and we would have a couple of drinks on the way back, usually gin squashes. A can of lemon squash and a little airline bottle of gin, a do it yourself kit. Ken used to take the little empty gin bottles home with him and give them to his youngest, I believe she was about 6 at the time and I am not sure what sort of message little gin bottles conveyed. They were appreciated apparently.

We did about a year's worth of trips up to Mirikata and that was the end of that part of the OHR development. Never heard any complaints about what we did, or whether it was of any use. I like to think it was a vital contribution.