

NEWS CIRCULAR 17, JUNE / JULY, 2007

Introduction and Secretary's Message

Once again, it is time to reach out to members with what the RANEL Association has been up to since the previous circular. I hope 2007 is going well for you and yours. Note the change of title for this circular. In the beginning, we had an annual newsletter and a couple of brief circulars. The newsletters became too time consuming, so the circulars gradually grew. I now feel that we have reached a fairly consistent compromise to warrant the above description. I'll happily accept comments for or against.

The November AGM was successful and we had a good turnout. Those who couldn't make it were of course missed. I won't mention everyone, but Bill Hunter wasn't well with his non-Hodgkins Lymphoma, Fay Russell has been having problems with a foot ulcer, etc. –more in NEWS and NOTES.

The meeting was chaired by our President, John Holm, who is an excellent 'hands on' President. The resignations of the 3 book editors and Gary Speechley were formally acknowledged, as well as their past contributions to the Association. This, unfortunately, meant that there were 3 vacancies on the committee, neither Bill nor Bob Jones feeling able to give it full attention any more. They were thanked for their previous efforts. This means that there are now 2 vacancies on the committee, Treasurer and Vice-President (civilian). Linda McMillan has generously taken over Bob's position as ordinary member and I was 'railroaded' into becoming Acting Treasurer as well as Secretary, web manager, etc. I'm afraid that I am not Treasurer material and have been able to add little effort to this task. Ted Lesh (again accepted as Honorary Auditor) has very kindly undertaken last year's audit, which had been Gary's baby. We are extremely grateful to Ted. John Holm and I did what each was able to do.

On the brighter side, we formally welcomed new members since the previous AGM. These were: Dr Michael Crozier, Tony Frost, Joy Stavleu, Lionel Criswick, Alf Commons, Joe Flaherty and, more recently, Paul Nysen. Bob Silberman (pending) and Naval Officer, Wayne Goodman can be added.

With the book "Secret Science at Sea" now under our belts (though note that CDs of it are readily available at \$5 for members and \$10 for non-members plus postage), the AGM centred mainly on the sorting, scanning and preservation of photos and the annotation of memorabilia held at Spectacle Island. A number of people volunteered to go to DSTO for a day to begin this task and that has already occurred once in February, with more to come. The same members are also willing to make the trip to Spec. Is. for the other task. This year, I'm attaching the AGM minutes, so you can 'visit' the meeting in more detail. Also attached is our current Constitution (Objects and Rules), which each member should keep.

Included also is a list of items for sale by the Naval Association, NSW Section, of which the RANEL Association is proudly an Associated Affiliate. I have personally bought a couple of excellent pens and a car transfer and I urge people to assist by purchasing something that appeals to them. You should contact Mr Peter Ashpole, (02) 9264 5411 on Tuesdays or Thursdays to enquire.

With regard to the Rushcutter Memorial, I did mention the need for donations last time, but repeat that plea. It will be a wonderful historical collection of plaques representing the occupants over the last century and RANEL / RANRL constituted a sizeable entry. While approximately \$18,000 has so far been raised, at least that much again is required ASAP. So far, the ASW Officers have given \$6,000, the RSL \$5,000, CD

\$1,250, RANSA \$1,000 and the Naval Association, NSW Section, \$750. That means that individuals have put forward about \$4,000, so how about digging deep for your memories of Rushcutter and all it has stood for before and after your involvement!! A lot of work and effort has gone into the project by Bryan and others.

I can't let this send out pass without mention of the new format for the White Ensign Magazine, having received and enjoyed our copy of the new magazine, amalgamated with the Australian Warship. This was a necessary, but excellent move to keep the White Ensign afloat and I can recommend the comprehensive, interesting and informative articles. It can now be bought at your local Newsagent, thus reaching a wider demographic. Congratulations to all those who watched over the White Ensign for so many years and good wishes to those who guide its inclusion in this new form.

Now comes the usual very important reminder that next financial year's fees are due from July 1, 2007. When you read your constitution, note that you do *not* have a year or even half a year to pay!! Of course this does not apply to Life or Honorary Members. However, optional donations are acceptable from all! Take a leaf out of Danny Collins' book and pay before I ask next time – thanks, Danny. I also hope that those who joined in order to buy our book more cheaply, will carry on supporting us financially. This would be much appreciated.

There will be a short circular not too far hence, for proxy and other pre-AGM information, so put your thinking caps on now, in particular re a Treasurer. I repeat that I can't do everything and especially not Treasury work. ***The AGM is tentatively set for the last Saturday in November.***

Julie Tönurist (Hon. Sec.)

President's Message

DSTO Pyrmont is relocating to ATP Redfern on the 29th October 2007.

Due to the extremely wet weather in Sydney over the past few weeks, there have been delays in finishing the new DSTO building at the Australian Technology Park in Redfern. This will mean that the relocation will no longer occur during mid-September, 2007. Because of the need to avoid school holidays and because of work activities scheduled for late October, the target date for the relocation is now the 29th October. The 5th November is a fallback date in case of further delays. It is anticipated that some sort of function, to which former employees would be invited, will mark the relocation to Redfern. I will keep the RANEL Association updated as further information becomes available and the move to Redfern draws near.

I'd like to thank those who made a special trip to Pyrmont on Wednesday 21st February 2007 to help make a preliminary selection of the RANEL photos scanned by George Kimpton and myself. They included Gregory Sachs, Jack Jellins, Jim Johnson, Egon Tonurist and Mrs Jean Nysen. We looked at over 1,500 scanned images. Of those, 196 photos were thought to particularly merit identification and preservation. Thanks also to Julie Tonurist for organising the volunteers.

A gradual clean up at DSTO Pyrmont, in preparation for the move to Redfern, is bringing to light items of historical interest. Greg Searle and Doug Cato recently discovered a photo album entitled "1956 RANEL 1970 RANRL". The album was started in 1965 by Marguerite (Reta) White and contains many annotated photographs.

John Holm (President)

NEWS and NOTES

I begin with the sad news. Many will remember **Denys Pender** from his IKARA and Navy Office days. He was a very interested member of our association right from the first re-union. Neither he nor wife, Valda, have been well in the last year or so and I kept in touch with them, especially after his severe stroke some months ago. He passed away at a nursing home close to their daughter, Susan, in Melbourne 3rd June from a bleeding bowel tumour and his wife is now wheelchair bound after a stroke. Our sympathies go out to all the Pender family. Denys was 'a great bloke'. For those who didn't know him, a summary follows written by Mal Buckham, with input from Jack Lonergan and myself.

DENYS A PENDER

Except for a short stint in the PMG telecom workshops in Sydney, Denys spent his entire working life in defence science. The strictures of National Security meant that his family never knew what he did. They were aware that he went away for long periods of time in Australia and abroad, but knew nothing of the projects in which he was involved. Now we may set the record straight.

Denys graduated from the Sydney Technical College with a Diploma in Electrical and Radio Engineering. His first job was with the PMG but, in 1952, at the tender age of 31, he joined the Aeronautical Research Laboratory (ARL) at Fishermans Bend, Melbourne. He was involved in the early stages of the development of the Ikara antisubmarine weapon. Ikara used a guided rocket propelled missile to accurately launch a homing torpedo at a submarine target out to a range in excess of 20,000 metres from the ship fitted with Ikara. In 1960, Denys went to Sydney to work with the RAN and personnel from the RAN Scientific Service to establish an Anti Submarine Universal Attack Teacher (ASUAT) at HMAS Watson. Upon successful completion of that project, he returned to ARL. In 1965, in company with a team from ARL, Denys returned to the RAN and WATSON to assist in setting up instrumentation for an extensive Operational Research study on the Ikara system. The study indicated a number of ways in which the system could be improved, in particular, by the addition of an external data link which would permit a unit other than the Ikara ship, for example a helicopter in sonar contact with the submarine, to control the homing torpedo release. The Ikara system benefitted from the study.

In 1967, Denys joined the RAN Scientific Service as a member of the staff of the Director of Scientific Services at Navy Office in Canberra. There he was involved in a range of projects including the long range detection of submarines using arrays of passive listening devices, called hydrophones, laid on the ocean floor, the Operational Evaluation of Ikara and the specification of systems for the Oceanographic ship, HMAS Cook.

Following the integration of the Defence Group of Departments, Denys moved in 1977 to a position in the Major Projects Branch of the Defence Science and Technology Organisation. He continued to work on major projects such as over the horizon radar systems and missile decoy systems. Denys was seconded to the Thai military for a couple of years until his retirement. Denys had an interesting and rewarding working life.

Denys frequently liaised with the RAN Experimental / Research Laboratory at Rushcutters Bay when at Watson and Navy Office and many of us remember him fondly from those times. He was one of the foundation members of the RANEL Association in 1998 and remained a supportive member until his death.

Frank Harper's wife, Betna, had suffered Parkinson's disease for many years and died early this year. I have given Frank the Association's condolences also. He is stoically trying to fill that void of daily care and presence with her by buying a computer and focussing on all the interest that can offer, as well as his ongoing enjoyment of classical music.

Our sympathies also go to **Linda McMillan**, a current committee member, for the loss of her mother in April. It has been a stressful time for Linda.

On the health side of things, **Fay Russell** is still battling her painful foot ulcer and has been hospitalised several times, most recently in May and, again, June. It seems that her poor circulation is preventing an easy cure, despite strong antibiotics which make her feel quite sick. We keep in touch frequently.

I mentioned **Bill Hunter** in the Introduction and never cease to be amazed by his good mental outlook and determination while fighting the Non-Hodgkins Lymphoma. During remissions, he has made several outback trips and still hopes to attend his Perth High School's 60th re-union in September, despite a recent setback. We wish him well re that goal. On top of health problems, Bill's riverfront property at Wyong was affected by the recent floods and caused extra work for him.

Aiden (Allan) Thompson has been in Ohio with his Fiancée, Mary Anne, since late last year, but returned down under in May, only to have an unexpected heart attack. However, triple by-pass surgery has been successful, though he must take life easy for a while. Thankfully, his earlier health problems seem under control now.

Bryan Cleary has had a few ups and downs, but marched all the way on ANZAC DAY, as did **Red Merson**, the latter leading the march behind Governor Bashir.

Peter Clynick had a Birthday in January and only Peter, with his great mathematical background, would tell me he had turned 9 squared (81 for those who've forgotten their arithmetic)!! He has bouts of the arrhythmia still and a touch of gout, thyroid and arthritis, but I always enjoy Peter's e-mails and 'phone conversations because of his positive sense of humour. He sends his best to friends and former colleagues He doesn't travel out of the UK these days, but visits family in Cornwall. Last time, I included a précis of his interesting historical studies of Boulton and Watt and this now follows in full.

The Boulton and Watt Letters

A couple of years ago a cache of about 1800 old letters was found in a Cornish house belonging to one of the old established families. They proved to be almost entirely letters written by James Watt and Matthew Boulton to Thomas Wilson – their agent in Cornwall. The collection had been acquired by the Cornwall Record Office (CRO) and it had been decided to make the letters available on the Internet for the benefit of historians. This was no small task and CRO decided to enlist the help of amateurs with the data entry. My daughter, who now lives in Cornwall, brought to my attention an advert by CRO in a local paper seeking help in this work, and being between computer projects at the time, I volunteered. I wasn't expecting to be able to help, living as I do some 215 Kms from the CRO, but this did not in fact turn out to be a problem.

When I volunteered I knew little more than that Watt was a steam engine pioneer, and that steam engines had been used to pump water out of mines. I had spent my boyhood in Cornwall, and the mine engine houses, waste heaps and old mine shafts (usually unfenced) were still a prominent feature in the mining areas. My 1884 Gazetteer of Cornwall listed more than 650 Cornish mines – mostly, but not entirely, tin and copper. These lay, for the most part, along a 15Km wide strip the length of Cornwall and a little way into Devon. A favourite pastime as a boy was to drop stones into a mine shaft and time how long they took to reach the bottom. I knew the formula $s = \frac{1}{2} at^2$ from an early age!

The Boulton and Watt letters, hand-written on fairly thick paper, were folded, sealed with wax, and then addressed. Watt had developed a method to obtain facsimile copies of their letters for the firm's filing system. Letters were carried by Royal Mail coaches about as expeditiously as today's second class mail. The CRO letters represented only one side of a triangular correspondence between Boulton and Watt in Birmingham, Wilson (Boulton and Watt's Cornish agent) and Boulton and Watt's London lawyer. Some of these other letters exist, but many are lost. The CRO had prepared the way for data entry by photocopying everything on each letter, and then getting someone familiar with old handwriting to make a pencilled, upper case transcript of it. I found that having more time than the transcribers and good reference books I could often make sense of the letters without their help. Data entry consisted of typing and

saving on CD-RW discs the contents and addressing of each letter. Rather boring, you might think, but not for those with an interest in history. I processed nearly 300 of these letters spanning 22 years at the end of the 18thC and early 19thC and found the glimpse they provided of life in this country 200 years ago fascinating.

The letters were written almost exactly midway between the time of Shakespeare and today, but the language is more modern than that suggests. Sometimes there can be difficulty reading the writing, but there is no difficulty understanding the meaning. Spelling was not standardised, and some words have changed their usage. The use of the long 's' is usual except in letters by the more learned (such as lawyers).

The times

The letters I dealt with were written between 1781 and 1803, a particularly interesting and turbulent period in British history. In Europe the French Revolution (1789) was followed by the Napoleonic Wars, which went on with only short breaks until 1815. The struggle with the French for dominance in India was just about over. The American colonies (but not Canada) had just achieved independence in 1776. Settlement of Australia commenced in 1788. Fighting also extended to the Caribbean. Britain's world-wide commitments dictated the need for a large navy, at a time when a ship typically might survive only three 1½ year round trips to India.

Domestically, change was in the air. The long periods of war had to be paid for, and amongst the unpopular taxes proposed were a Stamp Duty and taxes on cider and bricks. There had been improvements in farming, but bad weather had caused poor harvests. There had been food riots at intervals throughout the 18thC including the period covered by the letters. One letter describes how a rampaging mob attacked the Boulton factory in Soho, Birmingham. The Industrial Revolution, which so profoundly changed the domestic and industrial scene, was well under way, and was not universally popular. It demanded a lot of suitably skilled labour, which was in short supply. Materials could also be in short supply. It was ironic that when Boulton won a contract to supply the East India Company with a large amount of copper coinage he had the greatest difficulty obtaining the required amount of copper, despite his close connection with and shares in Cornish copper mines.

Factories were tending to replace cottage industries. Roads were bad and sometimes horse drawn sledges were more effective than wheeled traffic. Heavy goods went by canal or sea. Freezing of canals in winter sometimes halted canal traffic. There were not yet any railways. The only two cities in England with a population larger than 50000 were Bristol (60000) and London (750000).

It is surprising that very little of the turbulence of the times is mentioned in the letters. One of the rare occasions was in a letter written 8/2/1797 mentioning 'the bad news from Italy', which presumably referred to Napoleon securing the surrender of an Austro/Sardinian army and thus ending the siege of Mantua on 2/2/1797. Six days from Italy to London to Birmingham was pretty quick in those days!

Patents

There were constant legal battles with those who were attempting to find ways around the Boulton/Watt patents. Boulton and Watt had to be extremely vigilant to guard their interests! One of their rivals, Jabez Hornblower, actually lived in the same village as Thomas Wilson, the Boulton and Watt Cornish agent, which must have been embarrassing to say the least! Jabez ended up a rich man. Watt did not.

Patent law worked both ways. Watt had to put quite a lot of effort into finding ways to circumvent Pickard's patent on the use of a crank to convert between linear and rotary motion.

In general the legal system seems to have worked efficiently and fairly.

Finance

Boulton and Watt devised an ingenious way to extract payment for their engines. They hardly, if ever, sold an engine. The attraction of Watt's engines was their fuel economy compared with earlier engines. By 1783 all but one Newcomen's engine had been replaced by Watt's engines. The tariff was based on the fact that if a mine installed a Watt's engine it would save on its coal bill. The hiring charges ensured that the mine saved enough on fuel to pay Boulton and Watt their tariff and still leave a profit for the mine. Mention is made in some letters of tests to prove the predicted gains, or to compare Watt's engines with rival makes. Here too Boulton and Watt had to be vigilant to ensure that the tests were fair eg that similar coal was used for each engine tested. Hard luck stories were used to try to get Boulton and Watt to reduce their charges, usually unsuccessfully. It was not all that different from a World Cup football match!

No mass production yet

A feature that seems strange now is that each new job led to a brand new design. The required engine power was dictated by the volume of water to be lifted per hour, and how far it had to be lifted. These days I feel sure a firm like Boulton and Watt would design a range of engines covering the spectrum of requirements so as to speed delivery and to economise on spare parts. The individual engine designs required individually designed engine houses which Boulton and Watt sometimes designed.

Travel

Usually travel would be on horseback, or by stage or mail coach, and there was quite a lot of it. Boulton and Watt engines were used in various coal mines in the north of England and in Wales, as well as mineral mines in Cornwall and Devon. Boulton and Watt were shareholders (Adventurers) in various mines. Their lawyer was based in London. Although the use of an agent and the postal service reduced the need for travel, they still did quite a lot of it.

James Watt (1736-1819)

James Watt was an interesting man. A Scot, he first worked for an instrument maker in London, but soon returned to Glasgow because of ill health. Not having completed a full apprenticeship he could not be employed as an engineer, but Glasgow University were not so constrained and took him on as a mathematical instrument maker. An early task was to repair a model of a Newcomen's Steam Engine. Not only did he repair it but he also worked out various ways to improve its efficiency. This led ultimately to patents and his partnership with Boulton, at that time a maker of brass buttons. Watt, the engineer, and Boulton, the entrepreneur, and later their sons, worked well together. Watt retired in 1800 but even then he continued his mechanical pursuits. He comes across as a thoughtful, inventive person but with some blind spots. For example, he bitterly opposed the use of steam at higher pressures even though this would have increased the efficiency of his engines. Watt's references to Jabez Hornblower paint a very different picture from that obtained by reading Jabez's Dictionary of National Biography entry.

Something which struck me whilst working on the letters and in the reading it encouraged was that the scientific/engineering community was so much smaller than today, Watt would have known personally many of the notable scientists and engineers of his day. At Glasgow University he would have known, amongst others, Black, the 'inventor' of Latent Heat. Such people were also very much less specialised than now. For instance, apart from steam engines, Watt surveyed the route for a canal, drew harbour plans, worked on a project to deepen the River Clyde and to bridge it. He invented a means to copy hand written letters, and means to scan and reproduce the shape of sculptures. In Cornwall William Murdoch, the inventor of coal gas lighting, was a Boulton and Watt employee.

Money was, of course, reckoned in pounds, shillings, pence, and down to farthings. Weights were in tons, hundredweights, quarters, stones and pounds; lengths were in miles, yards, feet,

and inches; mine depths in fathoms. Calculating the cost of so many tons etc of coal at so much a ton reminded me of the sort of highly improbable sums I did in elementary school

The demise of Cornish mining in sight

With the benefit of hindsight the first indications of the end of Cornwall's supremacy as a source of tin and copper can be seen. It is doubtful whether those engaged in Cornish mining realised this at the time but towards the end of the period covered by the letters it is becoming clear that competition in the form of Malaysian tin (which could be transported cheaply as ballast in ships), and Anglesey copper were beginning to affect Cornish mining profits. Later, South Australian copper (often mined by Cornishmen) further undermined the Cornish industry.

Summary

What I thought might be a tedious task turned out to be interesting because of the historical interest of the letters. The times when the letters were written were exciting and certainly not peaceful. Political correctness hadn't been invented yet. The central characters were forthright and confident, though not always right.

Overall, I was left with the feeling that although so much has improved in the last 200 years I regret the modern political correctness and loss of entrepreneurial courage.

P.R.R.Clynick

I'm still 'soldiering on' (my late Mum's favourite saying) with the Myotonic Dystrophy, as well as recovering from a number of bad falls resulting from a knee requiring surgery. I'm fortunate to have found excellent and understanding doctors back up here in the Blue Mountains. My orthopaedic surgeon flies a helicopter, so we often chat about such matters and my, albeit 'passive', flights in the old Wessex ASW choppers. He was very interested to read our book, but I haven't yet managed to talk him into joining the association – give me time and who knows? Talking of books, I've been busy keeping the old grey matter exercised by co-authoring 2 books – one about the history of our local church (for its 35th Anniversary) and one for Sydney Girls' High School's 125th Anniversary next year. Apart from all my busy times, I've 'adopted' the little children next door and have great fun with them, so much so that I feel the urge to include a photo of 'Grandma Julie' with Carly and Luke amid other photos at the end. I hope you'll 'indulge' me re that inclusion!

Egon still enjoys working and doing things around the property, including building a shed to house all that we have hoarded over our 41 years of marriage. His mother is far from well, however.

The Lovegroves have had their share of health problems and scares, Colin with his arthritis and Vivienne with her heart. Our thoughts are with them.

Mal Buckham's wife, **Zella**, is doing very well after her cancer and back problems a while ago and is now able to play tennis again.

Jack Lonergan and wife are in fairly good health, Jack's main problems still stemming from his car accident a few years ago. They have moved house and also have a new e-mail address, if anyone wants to know it. Jack is also stoical and keeps very busy, especially with his work for Veterans. Following is an extract from what he sent me. For anyone interested in knowing more, I can forward his other attachments.

Lest it be thought I have been idle, I should let you know that I did all the scientific criticisms of recent studies done concerning the effects of nuclear radiation on veterans and civilians who participated in the UK nuclear weapons test in Australia. On the basis of those studies, the Government limited compensation to health treatment for cancer. A small group of us protested this decision on the basis that the scientific studies were flawed. I will send you separately various files about all of this. I was fully committed to this task for 12 months. We

could not budge the Govt, but the Labor Party has accepted our objections and say they will compensate the participants fully under the Veterans' Entitlements Act should they win Office .Best wishes,
Jack

Danny Collins and wife, Eugenie, keep reasonable health and are recently back from a trip up North. His words follow.

We have recently spent 2 weeks in Darwin and surrounds, each day sunny and more than 30°C, except for one day when it was 28°C, with the locals complaining of the cold! Yes, we're both keeping well, thanks. Port continues to develop rapidly, the shire now having 70,000 plus people. The foundations have now been poured for the units being built on the old Williams' fruit stall site. Our regards to you all and good health.

Eugenie and Danny.

RANEL/RANRL produced some remarkable success stories both within the Lab and for those who went on to other things. Of course, Paul Scully-Power comes to mind, but there were others, including Paul Nysen, Mick Millington and the 'indestructable' Doug Cato. Paul has recently become a Life Member of the Association. We lost track of him for a while, after the tragic death of wife, Mirella, about 10 years ago. We in fact have to thank our book for finding him again. His parents were very much Navy and his mother, Jean, saw our book while visiting Spectacle Island to hand over important memorabilia. They gave her my number and we now often communicate by 'phone and I've made e-mail contact with Paul. I asked **Paul Nysen to tell us what he's been up to since RANRL and, for the technically minded, the following will be extremely interesting.**

Hi Julie and all

Since leaving RANRL in 1980, I pursued a career where I could continue working at the same familiar wavelengths, but had to increase the frequency by 2×10^5 th. The radiators moved from dilatational to transverse (i.e. transducers to antennas). Yes, I pursued a career in UHF to microwave RF systems. My background in acoustics at RANRL prepared me very well for propagation and antenna studies in the 500MHz to 6GHz RF band range. Of particular note was the use of the method of Self Reciprocity Calibration (SRC) for calibrating a single underwater transducer against its own reflection which I pioneered at RANRL. This same principle was applied to antenna gain and beam pattern measurement, using a solid metal plane reflector and the measured S11 parameters from a Vector Network Analyzer and, yes, it also worked very well.

Tabtek Pty. Ltd. was the first company I worked for after leaving RANRL. The product I developed was an Electronic Identification Device (EID) which used a Surface Acoustic Wave (SAW) device configured as a multi tap delay line connected to an antenna. I also developed the reader system that used a low power monopoles RADAR system to identify the individual EID delay taps on the SAW device, similar to an IFF system. In November 1981, Tabtek transferred me to a Californian company called Crystal Technology Inc. (a Siemens company) in Palo Alto that was subsequently granted a joint parallel license to the technology in 1982. Following the licensing, I developed a new EID system based on a reflective SAW based EID that was smaller and more efficient than the original device and I also developed a new reader system styled after a chirp RADAR. In mid 1984, Crystal Technology allowed myself and 4 others to spin this technology out of Siemens and into a startup company called X-cyte Inc. This company survives to this day and I continue to support it on a casual basis.

For a brief period 1988 to 1991, while still providing services for X-Cyte USA, I participated in another startup called CEDCOM Pty.Ltd. in Australia. In this company, I developed a 2-way

communication system based on the principle of Modulated Back Scatter This was a pico cell system with a range of up to 20 metres The remote part of the system has no contemporary transmitter but receives, de-modulates and then phase modulates the original signal which is then re-transmitted from the same antenna. As it happens, this system is also similar to an IFF system. The first product was a voice based system and was quickly followed by a data based system.

As of November 2001, I now work for Sierra Wireless Inc., a cell phone based company located in Carlsbad California The main products are adaptors that provide for the connectivity between cellular systems and portable computers. My rôle is the design of high performance, wide band antennas for these adaptor products.

To date I have 34 issued patents in the USA with 8 more in process I always look fondly back on the time I spent working at RANRL and with the RAN I am proud to be a 'Ranellian'.

Paul Nysen RANRL 1969 - 1980

We are also happy to hear that Paul has just become engaged to a lovely lady named Debbie and we wish them well.

While on the Nysen family, I certainly never knew the rich Naval background from which Paul came and following is an extract from what **Jean Nysen has written for me. I find it very interesting and hope that you do also. She has even been able to tell Mike Turner some useful history associated with his WW1 and WW2 mine warfare books which he is now editing as one combined book.**

NYSEN FAMILY BACKGROUND

Paul's Grandfather was a foundation member of the RAN, joining as a boy in 1911 and retiring as a LCDR (Signals) in 1934. His mother, Jean, served as WRAN during WW2 as a telegraphist at HARMON. His uncle was a midshipman and survived the sinking of HMAS Canberra in 1942.

Paul's father was in the Dutch allied Navy. In 1947, he was sent to HMS Colingwood near Portsmouth for a RADAR course, as the Dutch were buying the British system for their cruisers. Hence, Paul was born in England in 1948.

After some time in the Hague, the family moved to Sydney, where his father was employed by AWA. With his valuable experience, he contributed (as a Project Engineer) to work on installation plans for the tracking stations used in putting man on the moon.

Working with his father in school holidays at Woomera and Carnarvon, it is no wonder that Paul's interests later focussed on electronics.

Jean Nysen

Most of us know **Paul Scully-Power's illustrious past. At present, he has moved to become CEO and Chairman of SensorConnect. At my request, he sent this newspaper summary as an update.**

The Australian March 27 2007

SENSORCONNECT has appointed Paul Scully-Power as chief executive and chairman of the Board. Dr Scully-Power has more than 30 years of experience in commerce, government and education in Australia, New Zealand, Britain and the US, and is Australia's first astronaut, having flown as a crew member on the space shuttle Challenger in October 1984. Scully-Power

currently serves as chairman of Prime Solutions Pacific.

He was formerly chief technology officer of the Tenix Group, Australia's largest defence and technology contractor.

He has also served as a director of a number of public and private corporate and advisory boards worldwide, including the Australian Trade Commission and the Australian Institute of Company Directors.

He was formerly chairman of the Civil Aviation Safety Authority and the federal government's International Space Advisory Group, a chancellor of Bond University and the inaugural chairman of the Queensland Premier's Science and Technology Council.

SensorConnect provides real-time data collection systems that focus on sensor-related data including RFID, imaging systems and environmental controls.

Mick Millington has done himself (and RANRL) proud with his achievements. His CV speaks for itself, but is too long to include here, sadly. A greatly reduced summary follows, but more can be found about Mick on the Internet. He is also beginning further study, whilst working on some significant Defence projects.

PhD (Engineering), University of NSW; MBA (Technology Management) Deakin University; Postgraduate Diploma in Management, Deakin University; Bachelor of Engineering: (Hons) in Electrical Engineering, NSW Institute of Technology; Post Graduate Diploma of Aquaculture, Deakin University, Electronics and Communications Certificate; Electrical Fitter and Mechanic Trade; PEng, CPEng, FIE(Aust).Senior Executive Appointments

Senior Executive responsibilities:

- *Chief Engineer/ Director Electronic Warfare Programs/ Electronic Engineering Specialist* *Global company specializing in open IP based computing, routing, datalinks, self-organizing networked UHF/VHF/HF communications, advanced displays and precision geo-location and navigation.*
- *Principal Scientist* *Global company specialising in aerospace, weapons and aircraft capabilities, intelligence and surveillance systems, communications architectures and with extensive large-scale integration expertise.*
- *Managing Director* *Australian company Queensland based consulting in IT Systems, Defence Technologies, Simulation and Modeling and Operational Concept development.*
- *Engineering Manager* *Queensland company wide area networking, gaming, equipment design and manufacture.*
- *Director* *Distributed Systems Technology Centre, Cooperative Research Centre consisting 20 of Australia's top companies and Universities, and Director Sunshine Coast Economic Development Board representing Noosa Council.*
- *Program Manager* *Global company providing products and services range from environmental management systems to complex military command and control systems, navigation and surveillance systems, from Digital Signal Processing to Radar Systems, and from Data Visualization to Information Protection and Assurance to Defence.*
- *Manager Asia-Pacific* *Global company mobile information services provider delivering real-time, high-speed connectivity to airline passengers through laptop or hand-held devices, affording them personalized access to the Internet, to their personal and business email accounts and to entertainment content.*

- *Deputy Director* *Significant operational organisation, personally responsible for combat system support for Australian Submarines.*

International Exposure

- *Leadership roles in major project and international business environments in:*
- *United States, Holland, Sweden, Singapore, Germany, France, Switzerland,*
- *United Kingdom, Thailand, China, Tibet, Pacific Region, Australia*

Doug Cato recently returned from a visit to Italy to attend an Intergovernmental Meeting on the Effects of Sound in the Ocean on Marine Mammals at Lerici in Italy. This was sponsored by the NATO Undersea Research Laboratory, which is at nearby La Spezia, and the US Office of Naval Research. Lerici is a very pleasant sea side town north of Pisa and was very popular with the English poets (there are Hotels Shelley and Byron). The meeting was held in a grand villa that reputedly was one of Mussolini's summer houses. He also recently chaired a review of the marine science program at the University of Sydney, wearing his hat as Director of the University of Sydney Institute of Marine Science.

Joy Stavleu, our much appreciated former WRAN member, had an interesting trip with her husband recently and some of her words follow about that. Their main reason for going to SA was for a model train conference. I seem to remember in the book that Egon was one of several listing model trains as a hobby. Joy also proudly wore her newly acquired Service Medal on ANZAC Day.

Hello Julie - Well, I have just returned home from South Australia. We did have a great time doing several things we have intended to achieve for years. We saw the REAL COUNTRY, driving through the areas of those grand rivers we learned about in school. There was hardly any water in any of them. I was intending to call you on our return, but after a hectic week, we decided to come back via a different route - through the centre of NSW and across the McIntyre River border. Glad to hear of your new found energy to get the newsletter going. I don't mind about you using parts of my note to you - I don't have a photo.

Right now, there is a great football match on - State of Origin - and Eddie refuses to watch, so it is best for me to catch up on things here at the keyboard. The people next door must be watching, because I can hear cheers occasionally - I think they will be rooting for the Maroons.

I have lots to catch up on with several meetings to attend which keeps me alert. Tomorrow, the laundry will be first on my "to do" list (I never did write those lists - did you?)

Must get on with the other messages - maybe one, day, "our ships will pass in the night"

JOY to you

Alf Commons has been another traveller:

Hi Julie,

We were probably on our Adelaide trip when you rang us. We were away from the end of February to the end of March. Sorry to hear of your and Egon's troubles. We are all getting older, I'm afraid. I have to watch Pat very carefully because of her Parkinson's problems. We both agree, however, that we must still laugh as much as possible and it works most of the time. I may be able to tell of a little adventure of a meeting with a 62 years old. cyclist riding from Sydney to Fremantle to raise funds for the M.S. Ass. See the first leg gallery on:

<Error! Reference source not found.>

There are a couple of pics of me there.

Take care both,

Alf

Lionel Criswick and wife, Sophie, travelled earlier this year:

Sophie and I arrived back from Manila on 11 April after a 5 week absence. We actually stayed with Sophie's daughter Cristina and her family in Manila during our time abroad. The following day after our arrival in Manila on 06 March, we accompanied Cristina and her business colleague to Cebu which is a one hour flight from Manila. We spent 3 days there sightseeing and relaxing whilst Cristina and her colleague attended to business matters during the day. We all arrived back in Manila the following Saturday The weather was hot and humid during our stay in Manila It was necessary to use electric fans continuously in the house, even during the night to prevent sweating. During the third week of our visit, I sprained my right hand in the knuckle area after tripping and falling on my hand whilst playing badminton with Cristina's 12 year old son. Luckily, no bones were broken as revealed by an x-ray performed in a local hospital but the pain was excruciating and the hand was inflated like a balloon. The hand is still painful and I am unable to close my hand fully but I am confident that time will heal It's nice to be back and to smell and enjoy the Australian bush again. We hope that you all had a pleasant Easter, are in good health and we look forward to seeing you sometime in the near future.

Regards,

Lionel

Joe Abrahams – one of RANEL/RANRL's favourites (if not top of that list!) – is another who soldiers on amid still missing wife, Mary, and having some health problems. The cancer seems to be in check, however, which is good to hear. Joe still likes the occasional beer and goes to the races, when the weather isn't too bad. He also believes in keeping fit, going for walks to the park, taking a bus to enjoy the sights and more recently reading – especially real life crime stories. Keep it up, Joe.

I mentioned Peter Clynick's 9 squared Birthday. **Two Ranellians** recently celebrated the same Birthday on the 'shortest day' of the year – Bryan Cleary and Bill Hunter. I don't think they're the same age, but neither volunteered the relevant information. Bill must, however, think I'm getting old fast, seeing fit to remind me that it was only the daylight hours short, not the day!! Bryan has travelled to Noosa and Melbourne with wife, Pauline, as well as trying to raise funds for the Rushcutter Memorial.

Last time, we showed you **Greg Searle** in his Coastguard uniform. He has now risen to Admin Officer for the Coast Guard Port Jackson Flotilla and OIC of the South Head Radio Base, having completed 1000 hours of radio duty. In between that and intermittent DSTO contract work, he will spend 3 months as HSC Presiding Officer at his old High School, Fort St Boys High.

Jenny Hill always keeps busy and her health is quite good at present. She teaches water colour landscape painting Mondays. These lessons are on site, such as Narrabeen Lagoon and, at present, the Manly Dam. She still paints and sells her own work. She has an interesting circle of friends who visit one another and she is active in her local church, for example as entertainment director – arranging musical and other functions. Local politics has always been important to Jenny and she's still participating in the Church Pt environmental plan. She is currently stepping determinedly into the world of the PC (in her 'spare' time!)

Greg Sachs has recently returned from a tour of North Queensland, including Cairns, Cape Tribulation, Daintree and Cooktown, where the weather was kindest.

I spoke earlier about our photos and would like to thank **Brian Bevan** for sending us several batches of interesting slides. If anyone has facilities for scanning slides, it would be much appreciated.

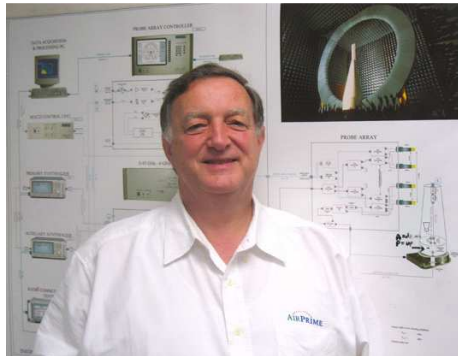
As I've written previously, if you want to make these circulars/newsletters interesting, please give me your news or opinions or even the occasional (clean!) joke.

A few photos follow.

All the best to you and yours from all of the Committee, including Egon and myself.
Julie Tõnurist
(Hon. Sec.)



*Denys Pender at RANEL
40th Re-union, 1996*



Paul Nysen at Sierra Wireless



*'Grandma' Julie, Carly and
Luke*



*Jean Nysen, John Holm, Egon
(DSTO photo day)*



*Greg Sachs, Jim Johnson, Jack
Jellins (DSTO photo day)*