



# NERG NEWS

Incorporated 1985 in Victoria  
Reg No A0006776V - <http://nerg.asn.au>

**SEPTEMBER 2004**

NERG Inc.  
PO Box 270  
Greensborough  
Victoria 3088

## WHAT'S ON THIS MONTH ?

What's on this month? Well, not much really - plans for a guest speaker fell through and our appeal for a volunteer to organise the meeting calendar has been underwhelming.

Nevertheless, there will be discussions about current topics concerning amateurs (including a quick primer on the troubles HF and 6m users can expect if BPL is used in VK).

As usual, NERG welcomes visitors. Hot drinks and bickies will be available for a gold coin donation.

## SUMMARY OF THE AUGUST MEETING

This was our annual meeting where the office bearers are elected and we celebrate our birthday (and pay our membership). About 30 members attended, with several new faces in the crowd. The committee was elected and includes:

President Greg VK3VT, Secretary John VK3ZRV, Treasurer Marg VK3VOJ, Equipment, repeaters, NERG News, etc Mark VK3BYY, Committee members, Betsy VK3HBK, Don VK3KDT, David VK3THY and Peter VK3DU.

Mark VK3BYY was presented with Life Membership of the club in appreciation of all his efforts in the area of NERG news, repeaters and beacons, classes, construction nights, equipment modifications etc etc etc. Thanks for all your good work Mark we really appreciate it.

After the election and presentations all enjoyed a scrumptious supper and discussions lasted long into the evening.

The NERG do offer an invitation to any person interested in Amateur Radio to visit us on any club night.

73 Greg, VK3VT

## TUESDAY MORNING TEA GROUP

A great day was had at the QTH of Ernie and Jan - VK3CEW - for the informal gathering of retirees and other blow-ins. The food for morning tea would be sufficient for lunch by most standards, but we were then served with lunch! What a wonderful feed, including a liberal serve of trifle. While the issues discussed were numerous and in depth, we didn't solve the problems of the world (there is always next month's gathering!) Those present (appearing left to right in the phot above) were Greg VT Jim DBQ, Alan JPK, Dave JMB, the host Ernie CEW, and John ZRV(behind camera!). At the end of the sit down Dave, Ernie and myself attacked Ernie's Mix-W digital mode set-up with some success with the decoding working well but output to the stick was left to be strengthened.

The next meeting will be at QTH of Greg VK3VT on Tuesday 28th September at 10am. All welcome - give a call on 146.575 MHz or phone on 9432 0565 and let us know you will be coming.

73, Jim, VK3DBQ

7.45 pm, Thursday  
9<sup>th</sup> September 2004  
Briar Hill Primary School



**The NERG Tuesday Morning Tea Group  
(full story below...)**

## WANTED!

Wanted - Meeting Co-ordinator - having done a great job but approaching burn-out, our meeting organiser (Don, VK3KDT), the NERG is looking for someone with fresh energy to organise our monthly meetings. Someone who can spare a bit of time to seek out and organise speakers for our meetings. The job is not particularly onerous - usually following up leads from others on people they'd like to hear speak on their favourite subject. In the past we've had people talk about subjects close to amateurs heart such as working you first DXCC certificate, tips on building QRP gear, getting started in digital modes, or looking at the innards of some new technology. At the other end of the spectrum there have been some fascinating talks such as making wine from weeds, astronomy and building telescopes, first aid, turning mud into electrical insulators, and many other off-beat subjects. There has been the occasional build-it night as well as some excellent competitions.

Let us know if you can help - before Don goes into melt down

## REPRIEVE FOR VK3RMH

An unexpected increase in membership and some very welcome donations from the "save RSR repeater group" and local business PWB has delayed the closure of the NERG tower. NERG will be able to continue the tower lease for at least another year so that VK3RMH repeaters and beacons can continue serving local amateurs, as well as providing a home for the scout's VK3RSR 2m repeater when it is being used out our way.

The NERG will continue to investigate alternative sites - both from a financial and wider coverage point of view - let us know of anything promising!

## BPL HOTS UP

Broadband over Power Lines (also known as CPL) is becoming a hot issue not just for amateurs but for many HF radio users and SWL's as well. The HF bands could become unusable in urban areas if BPL is widely adopted for delivering high-speed Internet services to households and high-rise dwellings.

The BPL signals running from 1.7 MHz to 80 MHz tend to leak from the less than ideal distribution and building wiring.

It is probably a good time to quiz all your local politicians about their policy on BPL, especially with the election coming up.

## YUASA BATTERIES

Some NERG's have been fortunate to obtain some rather large VRLA (lead acid) batteries. Similar batteries are often available at hamfests around Melbourne at very reasonable prices.

Previously known as Gel or SLA batteries, these are now generally called Valve Regulated Lead-Acid batteries (VRLA). With a little care and attention these batteries should give a service life beyond 10 years. Unfortunately the care of batteries is often seen as a black art - but it doesn't have to be. The most important thing is to follow the manufacturers recommendations for your specific battery. Most problems occur through neglect and through applying charge and discharge methods designed for a different battery type. In fact the charging method for one type of battery may easily kill another type.

Battery designs and chemistries vary widely even though they may look the same on the outside. Each is designed for a specific application and may perform poorly in the wrong application. For instance a rid-on mower battery is a very different animal to a computer backup battery, which in turn is different from a deep cycle battery used to store solar cell energy.

Common plate types are lead-antimony and lead-calcium. The first is used in conventional car batteries. The latter is used in sealed valve regulated batteries (VRLA) and has much lower self discharge rates (good for sitting idle for long periods!).

### How to kill a lead acid battery:

- Leave the battery in a discharged state for long periods - Lead Sulphate crystals cover the plates, forming a high resistance boundary that is difficult, if not impossible, to break down by charging. The thick sulphate may physically distort plates causing further damage.

Solution - charge as soon as possible after deep discharge and whenever the open circuit voltage falls below about 12.5 Volts. Never discharge below 10.8 Volts (1.8 Volts/cell).

- Keep the battery warm - self-discharge rates double for every 18°C increase in temperature, promoting sulphate formation if left unchecked. It is also said the life halves for every 10°C increase over 30°C.

Solution - keep in dry cool areas.

- Allow cells to dry out - the exposed plates may corrode causing open circuits and battery failure.

Solution - maintain electrolyte levels in non-sealed batteries.

- Overcharge the battery - Overcharging can overheat the battery and expel gases and water vapour. This will dry out sealed cells and requires greater maintenance of open cells.

Solution: Use a chargers designed specifically for the battery.

- Freeze the battery - A fully charged battery can be cooled to -18°C before it freezes. However the electrolyte in a flat battery is mostly water and can freeze just below 0°C, damaging the cells mechanically.

Solution: Keep the battery charged and out of the snow.

- Use Backup batteries for Deep Cycle applications - Backup batteries are designed to be deep cycled only a small number of times. Their main attribute is long standby life, and need to be replaced if called upon frequently to deliver power.

- Charge with unregulated power supplies - If the battery is connected to a load while charging then any ripple in the charging voltage results in 100 charge/discharge cycles per second. Although small and very brief, each is an electrochemical cycle that will accumulate over time to wear out the battery. Use regulated supplies.



### Typical VRLA battery data (YUASA UXH series):

**Design Life** 10 years

**Battery Design** Valve regulated/sealed (VRLA)

**Plate Design** Flat pasted lead-calcium tin alloy

**Separator** Absorbed glass matt

**Case** ABS resin

**Typical applications:** Industrial Standby Applications - UPS, Telecommunications, Alarm systems, Fire & security systems, Emergency lighting, Starting emergency generators/pumps.

**Long design life:** Heavy-duty lead-calcium alloy grids with anti-corrosive construction enables the Yuasa UXH batteries to remain in float service up to 10 years.

**No equalising charge:** No equalising charge is required due to constant voltage charge (2.275V/cell).

**20 Hour rated capacity:** 125 Ah (Final voltage: 1.80V/cell, @ 25°C) (YUASA model UXH125-6)

### Charging:

These batteries should be charged with a constant voltage. For two 6 Volt batteries in series this is 13.65 volts (at 25°C), with current limiting to a maximum of 12.5 Amps. Trickle charging can continue indefinitely at 13.65 Volts.

A simple but effective charger was published in NERG NEWS in December 1999 (back issues can be downloaded from the NERG web site at [www.nerg.asn.au](http://www.nerg.asn.au))

Charging with unregulated power supplies is not recommended.

### Testing battery health:

A charged Lead Acid battery should have an open circuit voltage above 12.8 Volts after being disconnected from all loads and chargers for more than 1 hour (at 25 degrees C).

More next month.....

## VK3JDO PORTABLE IN SOUTH AUSTRALIA



G'day! I went on a little trip of 3,290 km's and took this pic (one of about 200) sitting at a lookout near Rawnsley Bluff, on the southern edge of Wilpena Pound, Flinders Ranges, South Australia. The Bluff is about 950m above sea level and is named after H.C.Rawnsley. Around 1850, a surveyor of dubious credentials, Rawnsley presented himself to the SA Governor of the time and only lasted 3 months before he was found to be incompetent a discharged for the job Well my GPS found it at 31 deg 37' 21.52" S, 138 deg 32' 45.41" E, and I'm not going to argue with it. The only repeater I could access was on 146.975 MHz at Mt Arden near Pt Augusta which has very good coverage but I notice it seemed to be getting interference from another service, causing my signal to drop out when back at our accommodation some 400m below on the wrong side of a hill, hmmm.... Cheers, Doug, VK3JDO

## BANYULE COUNCIL AT IT AGAIN!

According to the front-page report in the Diamond Valley Leader (Aug 25), Banyule Council is refusing a retrospective permit for a satellite dish until it's owner proves it poses no hazard to his neighbour's health. A councillor told last weeks meeting that the 2.2 metre Satellite TV RECEIVING dish is pointing directly at a neighbouring property, and "could" produce a small amount of radio frequency emissions. The applicant was given 30 days to supply a safety report to the council.

Hmmm.... It looks like Banyule Council is trying to take over the role of the ACA and ARPANSA.

There seem to be a few facts missing here. Firstly it's unlikely the dish is pointing at the neighbours - they work much better pointing at satellites!

Secondly, receiving dishes generally don't emit much power - you'd be lucky to measure it above the background noise level from the sun - my guess is that there are more stray emissions from the neighbour's microwave oven. Finally there seems to be this assumption that BIG is DANGEROUS. In fact it is the other way round. Take VK3UM's 10 meter EME transmitting dish for example - EMR levels in front of this dish meet safety requirements. That's because the transmit power is distributed evenly across the whole area of the dish. A much smaller dish - say 60cm (which by the way doesn't require a permit in Banyule), distributes the energy over a much smaller area and could be more dangerous - about 278 times more dangerous in fact!

Mark VK3BYY

## WEB SITES OF THE MONTH

This link leads to a really useful site called Educyclopedia. It's really a big list of links to subjects organised like an encyclopaedia. It covers many subjects but Electronics and Radio are particularly well covered. Be prepared to spend many hours here, starting with this page dedicated to antennas: <http://users.telenet.be/educyclopedia/electronics/antennatypes.htm>

For Ham Micro-controller projects, see John's own pages at: <http://members.optushome.com.au/vk3biz/micro.html>

Also EI9GQ has a good home-brew web page listed in my links <http://homepage.tinet.ie/~ei9gq/homebrew.html>

Phil Rice has published projects in Amateur Radio magazine and has a web site with various frequency and L-C meters, etc, at: <http://ironbark.bendigo.latrobe.edu.au/~rice/>

*Web sites and links supplied by John VK3BIZ with special thanks to David, VK3THY for helping compile the list.*

## ARDF EVENTS CALENDAR

Sept 7<sup>th</sup>-11<sup>th</sup> World ARDF Championships - Czech Republic  
Details <http://www.wch2004ardf.com>

Sept 26<sup>th</sup> Sunday - ARDF/Fox-Oring combined with  
MetrO /MicrO, Graeme VK3ZEO

Oct 2nd - 3<sup>rd</sup> Australian ARDF Championships  
Bruce Paterson VK3TJN

Oct 13<sup>th</sup> Wednesday night Street-O, Dingley Village  
Night series, start: Pethybridge Close  
Dingley Village, Melways: 88 F6

Oct 31<sup>st</sup> Sunday Fox-oring combined with MicrO  
Championships, Mark Diggins VK3JMD

Nov 14<sup>th</sup> Sunday - ARDF/Fox-oring combined with  
MicrO Relays Darebin Parklands,  
Bryan Ackerly VK3YNG

Late November End of year social gathering, meal and  
results presentations, Adam Scammell VK3YDF

ARDF links: <http://www.ardf.org.au>

Enquiries: Victorian ARDF Group, Bruce 9888 7509

## 2004 EVENTS

Updated July:

Sept 12 **Shepparton & District ARC Hamfest, 10am**  
St Augustine's Hall, Orr St, Shepparton

Oct 2-3 **Rally of Melbourne, Toolangi/Yarra Valley**  
WICEN event coordinator: Mark VK3XMU  
ph: 9849 0501

Oct 2-3 **Oceania DX Contest - SSB**

Oct 9-10 **Oceania DX Contest - CW**

Oct 8-11 **World Wide YL Meet**

hosted by the Korea Ladies' Amateur Radio Club in Seoul,  
Korea. Info: Chae Do Sook HL2KDW  
hl2kdw@hotmail.com

Nov 13 **VHF/UHF Spring Field Day (CW/Phone)**

Nov 27-28 **Kona 24hr Mountain Bike Race, Redesdale**  
WICEN event coordinator: Gordon VK3FGC  
ph:5339 2427, Gordon.cornell@bigpond.com  
3 checkpoints & net control.  
[www.fullgaspromotions.com.au/24hour.html](http://www.fullgaspromotions.com.au/24hour.html)

Dec 26 **Ross Hull Memorial VHF Contest**  
(runs until January 10, 2005)

For more international contests see: [www.arrl.org/contests](http://www.arrl.org/contests)

**Dates should be independently confirmed.**

Collected from AR magazine, WIA Vic, VKham website, Vic ARDF  
Group, & NERG. For more info:

<http://www.vkham.com/contest>, & <http://www.wiavic.org.au>

**The NERG Inc.** Reg No A0006776V <http://nerg.asn.au>

The North Eastern Radio Group, Inc. is an amateur radio club devoted to encouraging members and others to enjoy the hobby of amateur radio. It tries not to hang on ceremony and endless reporting but rather participate in the fun aspects of this fascinating hobby.

**Membership Fees (due each August):**

**Full: \$30 Family: \$40 Concession: \$20**

**Send to: NERG Treasurer, PO box 270, Greensborough, Vic., 3088**

**Committee**

President	Greg Williams	VK3VT	9432 0563
Secretary	John Weir	VK3ZR	9431 0667
Treasurer	Marg Baxter	VK3VOJ	9467 1253
Committee	Betsy King	VK3HBK	
	David Aston	VK3THY	
	Peter Cosway	VK3DU	9379 3626
	Don Haslam	VK3KDT	0409 024597
Repeaters	Mark Harrison	VK3BYY	9435 3043

**Meetings**

2nd Thursday of each month at 7.45 PM (excepting Dec. & Jan.)  
Briar Hill Primary School, Gladstone Rd, Briar Hill (off Sherbourne)  
(Melway map ref 21-B1)

**Classes**

NERG occasionally runs classes and exams for Amateur license candidates.

**Callsigns and Repeaters (25km North East of Melbourne)**

Club call - VK3CNE <http://www.qsl.net/vk3cne>

6m rpt VK3RMH FM 52.550 MHz in 53.550 MHz out

70cm rpt VK3RMH FM 433.325 MHz in 438.325 MHz out

IRLP node 6350, EchoLink node 140587

6m beacon VK3RMH CW 10 Watts 50.295 MHz -Off air

10m bec'n VK3RMH CW 20Watts 28.2565 MHz

Occasionally home to the Scout Radio & Electronics Group repeater:

2m VK3RSR FM 146.375 MHz in 146.975 MHz out

**NETS**

NERG NETS run on 146.575 MHz FM Simplex (8.30 - 9.30 pm Thursdays). Please join the discussions. NERGs often monitor this frequency and the 70cm VK3RMH repeater.

**WEB Sites:** <http://nerg.asn.au> and <http://www.qsl.net/vk3rmh>

**NERG NEWS submissions and comments invited:**

editor: Mark Harrison VK3BYY

ph: 9435-3043 hm

post: 266 Nell Street West, Watsonia, 3087

email: [vk3byy@nerg.asn.au](mailto:vk3byy@nerg.asn.au)



**NERG**

North-East Radio Group VK3CNE

NERG Incorporated 1985  
BOX 270 GREENSBOROUGH VIC 3088

STAMP

---

**NEXT MEETING:  
7:30 PM Thursday 9<sup>th</sup> September 2004 –**

---

**2004 CALENDAR (NERG ACTIVITIES IN BOLD)**

<b>Sept 9</b>	<b>NERG MEETING – TBA - Briar Hill Primary School 8pm</b>
Sept 12	Shepparton & District Amateur Radio Club Hamfest - 10am, \$5 entry, Orr Street Shep.
Sept 17	Friday Night Two Metre Fox hunt - 8:00 pm - late - location to be announced.
Sep 26	Sunday ARDF/Fox-Oring combined with MetrO /MicrO, Graeme VK3ZEO
Oct 2-3	Australian ARDF Championships - Bruce Paterson VK3TJN
Oct 2-3	Rally of Melbourne, Toolangi/Yarra Valley, WICEN event coordinator: Mark VK3XMU
<b>Oct 14</b>	<b>NERG MEETING – TBA - Briar Hill Primary School 8pm</b>
Oct 15	Melbourne Friday Night Two Metre Fox hunt - 8pm – Venue to be announced