



GATEWAY

The Official Magazine of the Gippsland Gate Radio & Electronics Club Inc.

June 2014 From The President

Fellow GGREC Members,

It was great to see so many members turn up for the working bee at the end of May. Not only did we prune a lot of overhanging branches but we also cleaned the Shack roof and skylights. If that wasn't enough, we also fixed up the mountings for the "inverted L" antenna as well as the Off Centre Fed Dipole. Mike and Steve set up a microwave link to the shack that will ultimately allow our computer to connect to the Internet.

With all this work being done, it was great to have a bbq'ed snag and a rest during the lunchtime break. Special thanks go to Ian and Dianne Jackson for bringing down their hydraulic platform for the Club to use. The platform made very dangerous jobs safe to do.

Thanks also to Graeme Brown for bringing his trusty chainsaw and for taking away the bulk of the tree litter, to Wayne Cooke for showing us his chain sawing and platform manoeuvring skills. Once again, thanks to all the members that came to help it was a very productive day.



Bruno Tonizzo

It was also pleasing to see members constructing baluns at the prac night. The technical drive and support offered by Rob is much appreciated and is filling a technical void in the prac nights. Well done Rob.

That's all for now,

Bruno VK3BFT

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Event Queue from June 2014

June 20th – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk by John Watkins on the early days of GGREC

July 4th – Friday Night. Prac Night at the Club Shack
From 1930hrs

July 18th – Friday Night. General Meeting at the Guide Hall
From 2000hrs No talk tonight early finish for Hamfest

July 19th – Saturday. GGREC Hamfest
From 1000hrs Cranbourne Public Hall Melway 133 K4

August 1st – Friday Night. Prac Night at the Club Shack
From 1930hrs

August 15th – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk to be announced

August 16th 17th – Sat-Sun Remeberance Day Contest
see wia.org for information

Around The Traps



Aussie Hams Set New 76/78 GHz Down Under Distance Records

On May 13, Alan Devlin alandevlin@bigpond.com, VK3XPD, and David Smith, VK3HZ, set and subsequently extended the Australian 76/78 GHz distance record on both SSB and digital (WSJT/JT65C) modes. Their initial contacts were over a 64 km (40 mile) line-of-sight path. SSB Reports were 57 to 58, while and the digital contact signals were -14 dBm both ways. These records were subsequently extended to 90 km and 127 km later that same day.



On May 15, VK3XPD and VK3HZ further extended these records to 139.8 km (87 miles) over a line-of-sight path in less-than-ideal weather conditions. Devlin said a lack of accessible high mountainous terrain makes it very hard to find line-of-sight paths greater than 150 km, so he believes the current world record of 252 km is unlikely to be challenged by Australian radio amateurs.

Source ARRL

DC another option to improve the electrical power transmission

Even though today most of the electricity transmission lines are alternating current ones, in some cases direct current lines are also used. And researchers are becoming aware that in some cases direct current lines are more suitable than alternating current ones. In this area, the GISEL research group of the Department of Electrical Engineering of the UPV/EHU-University of the Basque Country has been working to improve the technology needed for this conversion. The aim has been that this transmission should be done in a more straightforward, smoother and consequently less expensive way.

Electricity is normally transmitted by means of alternating current, but it is not the only way and not always the best one. In some cases, high voltage direct current (HVDC) is used. In fact, "direct current continues to be highly suitable for underwater and underground lines," asserted Marene Larruskain, one of the engineers in the UPV/EHU's GISEL group.

Furthermore "less investment is needed to build direct current lines, and there are fewer losses in electricity transmission. "However, as most of the lines in the power grid are alternating current ones, converters are needed to change the type of electricity transmission, and they are very costly."That is why direct current lines are appropriate beyond a certain length," specified Larruskain. And this is in fact the use that is made of high voltage direct current lines, to transmit electricity over very long distances; indeed, the longest lines that exist are direct current ones.



Bearing in mind that right now most of the transmission of electricity is done by means of alternating current lines, "our aim is in no way to replace these lines by direct current ones. Our proposal is based on using direct current as a solution in cases where there are problems with the alternating current lines," explained Larruskain. Renewable energies could be an example of this. Renewable energies are produced in a very irregular way; the wind, for example, could blow very strongly at some moments and very lightly in others. And the output may not coincide with moments of peak energy consumption."One way of solving the problem caused by this situation for the electricity supply could be to connect the farms or parks of various countries where renewables are produced. That way, if at one moment one region has a high consumption of energy but is not producing renewable energy, its demand could be met by using renewable energy which is being produced somewhere else," explained the researcher. As there is a global grid, the variability in production of renewables could be balanced. The UPV/EHU's GISEL group is proposing that these global grids should be direct current ones.

The GISEL group is working on new technology for converters known as Voltage Source Converters. Compared with conventional technology, "the VSC has many advantages; it is easier to control the power that is

transmitted, and that is very important on wind farms, for example. At the same time, given the fact that direct current has great economic advantages in underwater lines, it is very appropriate for them."

However, VSC technology has a number of drawbacks: firstly, its capacity to transmit energy is lower, the energy losses are greater and it does not respond well when problems arise. For example, if there is a short circuit, the system has problems. That is why "we're working to minimize those problems," explained the researcher.

Secondly, the researchers want to make use of the advantages of both means of transmitting electricity to be able to address growing power consumption. And it is a fact that "even though more and more energy is being produced to meet the demand, problems may arise when it comes to transmitting that energy. It is not always possible to incorporate the surplus energy produced into the already existing lines owing to their limits. In these cases, the use of direct current could solve the problem of the alternating current lines already installed, because, among other things, the HVDC lines can transmit more electrical power," explained Larruskain.

The GISEL research group has studied how to make the features of the alternating current and direct current lines compatible. The electricity lines of alternating current are three-phase. For example, the number of conductors are three, or multiples of that number. On the other hand, HVDC lines have two poles: a positive one and a negative one. "How are we going to divide two poles into three conductors?" wondered Larruskain. If we use one pole for each phase, one of the conductors of the original line will remain free and part of the power will be lost. That is why a line and a half of alternating current corresponds to each pole of direct current. Even though it looks impossible, there are various ways of making this distribution.

"In the future HVDC grids are expected to coexist with alternating current grids, which are in the majority nowadays. Transmitting direct current via the currently existing lines could be a first step towards building HVDC grids," explained the UPV/EHU engineer

Source sciencedaily.com

General Meeting 16th May 2014

Location: Guide Hall Cranbourne
Start Time: Meeting commenced at 2000 hrs.
Chairperson: Bruno VK3BFT
Minutes taken: Graeme VK3BXG
Present and Guests: As per attendance sheet.
Apologies: As per attendance sheet

Apologies : As per attendance sheet plus Helmut and Dorothy.

Correspondence received : Licence renewal VK3BJA from ACMA
April edition of Breakout magazine from Hastings & Napier ARC, NZ.
Radio Bulletin from the EMDRC for May 2014 Mid-year lunch bookings:
David & Rosalind Wright Michael van den Acker
Cheque from Bernard Henne for table booking for hamfest
Query re correct BSB and A/c details for payment of annual subs
Note from Ian Morris VK3IMF thanking the club for the use of VK3RDD
during the Oxfam Walk.
Email from Geoff VK3XHM re. thanks for help with sitting regs exam and
offering use of test equipment if required.

Correspondence sent : Notice requesting numbers wishing to attend the
Mid-Year Lunch at the Marina Restaurant in Hastings.
Reminder that VK3RDD would be used by WICEN on 2/3 May for Oxfam
Walk
Notice about Committee meeting on 9 May at the clubrooms and about
annual subs due by the May General Meeting.
Reminder about the prac night on 2 May and the change to the planned
program because of the non-arrival of parts.
April edition of Breakout magazine from Hastings & Napier ARC, NZ.

Treasurer's report : (for the period 31 March-15 May 2014)
Income: Membership fees \$605.00 Hamfest Income (table fees) \$88.00
Bank Interest \$2.27 Total Income: \$695.27
Expenditure : RWD Project \$20.00, Office & Admin (Licences & Permits)
\$74.00, Miscellaneous \$721.38. Total Expenses \$815.38

Quick Book balance: \$1252.53 Bendigo Bank balance: \$1326.53 (a difference of) \$74.00 (being undrawn ACMA cheque.)

Moved : Graeme VK3BXC Seconded : Max VK3TMK Carried : Yes

New Callsigns : Paul Stephenson VK3FAHA

Previous Minutes : As per Gateways magazine distributed

Amendment to last minutes: Meeting chaired by Ian Jackson rather than Bruno Tonizzo on account of Bruno being overseas.

Moved : Seconded : Approved : yes

Business arising from the previous minutes :

Mid year dinner – deposits accepted tonight

Antenna weekend scheduled for Oct again this year. Extending invite to a couple of other clubs. Further details to follow.

Memberships due now also.

Thanks to Albert for keeping the repeater going. CTCSS has not changed yet.

Beacons project moving along quite well.

Mike van den Acker found some knobs for the BBQ which may be of use for club bbq

New business :

1. Invite to the test and tune day by SPARC. If you have antennas to be checked take them along.

2. Antennapalooza. Tent has been hired. It will be the weekend before the Melbourne Cup W/end. Will be asking for clubs to bring along successful projects.

3. Work on replacement beacons is going on. Albert reported that PA boards and heatsinks have been purchased. Currently collecting all the required materials.

4. The club is looking to organise a visit to the Telstra museum, so keep a watch out for a notice about that.

5. Next month's speaker will be John Watkins about the early days of GGREC. Clint will also be in attendance.

6. Working Bee at the end of May. Keep an eye out for an email. We will also make use of the cherry-picker to trim trees around the shack etc.

7. From the floor: need for new BBQ to replace existing one. Matter to be considered by committee.

8. Russ **VK3WMR** : Spoke to Russell Broadbent re costs levied to amateurs here in VK compared with other administrations. Broadbent said that we should send another email to him and he will follow the matter up with current minister. Licence fee in the US used to be a one-time fee of about \$10.

9. Reg **VK3UK**: Seeking advice re replacement of existing setups using lasers to determine placement of the ball. Ideas invited.

10. Mark **VK3PKT**: Tonight's movie is about a 500,000w AM station WLW in Cincinnati.

11. Hamfest: 9 tables available now. Initial article went into AR mag. Sellers ad has been placed for the next mag. Door prizes will have to be organised. Ideas appreciated. Rokeby and Altronics will also be approached.

Need to make sure that we have the correct number of tables, and how many more we need to acquire.

Certificate of currency for insurance required. To be followed up.

Kitchen for the Hamfest: Providing we only do sausages, as was the case last year we will be ok.

12. Financial report which Ian was not able to be reported on at the last meeting: A financial report was given by Ian **VK3BUF** following the accounts being audited by Tom Wilson. These showed the club's accounts as at 30 March 2014. Further details are available from the Treasurer. The value of assets presented is a notional value (if we had to sell them). Asset value stands at \$47223.00

Ian **VK3BUF** moved that the report be accepted. Seconded Mark **VK3PKT**
Accepted.

Wanted to Buy

I am looking for " Werner Wulf type " HB9-Butternut, ground plane type, Multi band, vertical antenna for 10 / 15 / 20 / 40 Mtrs. From memory, there was one that included 80 mtrs as well
Please contact Tom Otley VK3ATO by phoning 0412 127 934
or via email tom_vk3hh@hotmail.com



Club Information

Meetings 2000hrs on third Friday of the month at the Cranbourne
Guide Grant Street Cranbourne

Prac nights first Friday in the Peter Pavey Clubrooms Cranbourne 1930hrs
Visitors are always welcome to attend

Office bearers

President	Bruno Tonizzo	VK3BFT	Repeater Officer	Albert Hubbard	VK3BQO
Admin Sec	Bryan Simm	VK3FOAB	Web Master	Stephen Harding	VK3EGD
Treasurer	Ian Jackson	VK3BUF	Magazine Editor	Mark Clohesy	VK3PKT
General 1	Mark Clohesy	VK3PKT	Property Officer	Bruno Tonizzo	VK3BFT
General 2	Wayne Cooke	VK3XF	Secretary	Ian Jackson	VK3BUF

Call in Frequencies, Beacons and Repeaters

- The Club Station **VK3BJA** operates from the Cranbourne Clubrooms.
 - 6m Repeater Cockatoo **VK3RDD** In 52.575, Out 53.575 CTCSS 91.5
- 70cm Repeater Cranbourne **VK3RLP** In 434.475 Out 439.475 CTCSS 123Hz
VK3RLP Repeater supports Remote Internet access (IRLP) Node 6794.
- 70cm Repeater Drouin **VK3RWD** In 433.575 Out 438.575 CTCSS 91.5Hz
 - Simplex VHF - 145.450 MHz FM • Simplex UHF - 438.850 MHz FM
 - **VK3RLP** Beacons 1296.532 MHz & 2043.532 MHz

Membership Fee Schedule

Standard Member rate \$40.00 Junior Member rate \$25.00
Pension Member rate \$25.00 Extra Family Member \$20.00

- Fees can be paid by EFT to **BSB 633000** - Account **146016746**.
 - Always identify your EFT payments.
- Membership Fee's Are Due at each April Annual General Meeting.

Magazine Articles to editor@ggrec.org.au or pockets@twistedsouls.com

All other Club correspondence to: secretary@ggrec.org.au
or via Snail Mail : PO Box 1098, Cranbourne 3977

GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
Facebook Page www.facebook.com/GippslandGate

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