QUA FARC NOVEMBER 2021

Franklin Amateur Radio Club Inc NZART Branch 10

VOLUME 29 ISSUE 11

Committee
President: Gary Landon ZL1WGL
Vice President: Peter Henderson ZL1PJH
Secretary: Tom McDonald ZL1TO Ph. 09 238 8580
with: Mike Jane ZL1UOM, Ted Doell ZL1BQA, Durlene Griffin ZL1ULK, and Mike Lee ZL1MFL.
Examiners: Ian ZL1PZ, Tom ZL1TO.

Web page: www.qsl.net/zl1sa/

MEETINGS: The club meets on the third Tuesday each month, in the clubrooms, Stadium Drive Pukekohe, 7.30 pm. Visitors welcome.

The committee meets on the first Tuesday of each month (excepting January) at 7.30 pm in the clubrooms.
Subscriptions $20.00, family $30.00.

Nets every Sunday at 9.00 am on 3.700 MHz (controller ZL1UOM) and 9.30 am on the 146.900 MHz repeater (controller ZL1PZ). Other 2 metre frequencies are 145.775 MHz, 146.625 MHz, and 146.900 simplex if repeaters off air.

Newsletter: Editor Tom ZL1TO tom.mcdonald@xtra.co.nz
A copy is sent to members and clubs in the Auckland area. Sent free of obligation by e-mail to anyone interested.

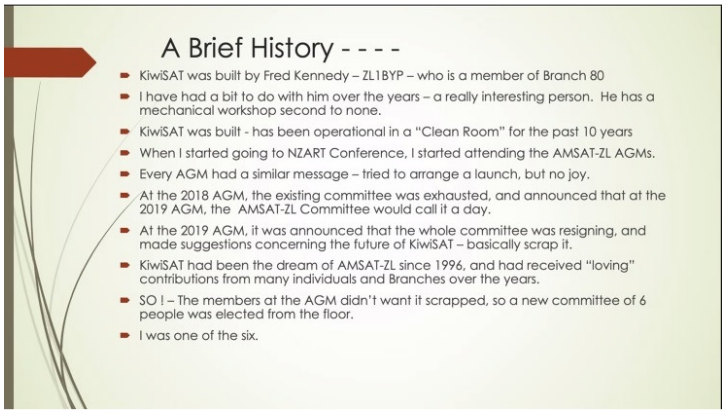
KiwiSAT

On Tuesday 19 October we were addressed in a Zoom conference by Douglas ZL1BFS. Douglas is on the 2021 committee of AMSAT-ZL – a group which is keen to complete the project which got going in 1996. There is a new found enthusiasm to get KiwiSAT launched.

As we have more practice at these online meetings, the quality of presentations keeps improving. Douglas had a slide show which was available for all to see by way of the *Share Screen* facility.

Below: Attendance on Zoom

A slide from the presentation



KiwiSAT can be accessed by means of a 70 cm uplink and 2 m downlink and will be in range of amateurs in South Auckland as it waits in a clean room at Hunua.

Club Notice Board

General Meeting, Tuesday 16 November

We are still prohibited from having a face to face meeting due to the Covid-19 lockdown rules.

The November general meeting will start on the 690 repeater at 1930 hours. At 1945 hours we will change to a Zoom conference. The log in details will be sent to members and any others who wish to attend.

As we ought to have our annual general meeting in a face to face situation, the AGM will be deferred from its usual date in November.

AREC Area Meeting, Thursday 18 November

The meeting will be held electronically via MS Teams, starting at 1930hrs. You will recall that the August quarterly meeting was cancelled due to COVID-19 Alert Level 4 lockdown. Log in details have already been circulated.

Repeater update

From the Auckland VHF Group newsletter November 2021 Spectrum the news is:

Bombay 690 – Since 2017 has had a damaged antenna, being "deaf" to the south. The site is owned by Chorus who have tightened up on the access procedures. Once the Covid-19 lock down restrictions ease, should be able to get to the site and undertake the required repairs.

Klondyke 6625 – Urgent work to replace the cable trays up the tower and the ladder used to climb up the vertical section are under way. It is hoped that the riggers will get the work done before the end of November. Strong winds in September caused some damage to the coax feeders for the 6625 2m repeater and to prevent further damage to the power amplifier, the repeater has been turned off.

Waitakere 670 – Working well.

On the VHF Group net of Sunday 14 November it was mentioned that there is a possibility of linking 690 and 670.

Minutes of Franklin Amateur Radio Club (Inc) General Meeting held on 690 repeater, 19 October 2021

President Gary ZL1WGL opened the meeting at 1930 hours.

Check ins on 690 repeater: ZL1WGL, ZL1TO, ZL1BQA, ZL1PJH, ZL1AQS, ZL1PZ, ZL1LL, ZL1TZP, ZL1BBZ.

Apology ZL1MFL received. ZL1WGL / ZL1TO

Minutes of the September meeting. The report in October QUA was approved. ZL1BQA / ZL1PJH

Correspondence:
Inward
October newsletters from Branches as listed in QUA.
Outward
Yellow pages by telephone to change 8pm meeting start time to 7.30pm Franklin Yellow pages will be combined in Auckland's next year.
The correspondence report received. ZL1TO / ZL1WGL

Finance:
Has been reported and approved by the committee.
A list of payments and receipts, and the bank balances will be circulated with the minutes of this meeting to those who attended the meeting, or apologised for non-attendance.
Expenditure: Contact Energy $55.00 (paid 4 October)
Balance in Current Account at 5 October is $1831.48

The report was received. ZL1TO / ZL1WGL

Reports:
AREC. Is reported in October QUA. approximately half the Group Leaders were at the Teams meeting at 1930 hours on Thursday 7 October. Dates for a proposed district training session were explored.

Oceania Contest. Peter ZL1PJH attended the Oceania DX contest two Saturdays ago, and bagged some contacts.

General Business:
Our annual general meeting is usually in November. The accounts to 31 October will be presented at the committee meeting on 2 November and circulated to members before 16 November. A face to face meeting would be necessary. Nominations for office will close a fortnight before the advertised date of the AGM. The meeting closed at 1940 hrs

Attendance on Zoom from 1945 hours: ZL1PJH, ZL1WGL, ZL1TO, ZL1MFL, ZL1UOM, ZL1BQA, ZL1WGL, ZL1PZ, ZL1BFS, ZL1TZP, ZL1LL, ZL1AQS, Alex, ZL1DW

Apology: ZL1GAC
The President introduced the guest speaker Douglas Birt ZL1BFS once the participants had logged in. Douglas is working to push ahead with a launch of KiwiSAT.

Our thanks go to Douglas for sharing his aspiration for the KiwiSAT project.

The talk completed at 2028 hours, and was followed by a general discussion.

Minutes of Franklin Amateur Radio Club (Inc) Committee Meeting held on 690repeater, 2 November 2021.

President Gary ZL1WGL opened the meeting at 1930 hours.

Check ins on 690 repeater: ZL1WGL, ZL1TO, ZL1PJH, ZL1BQA, and ZL1UOM

Apology ZL1MFL from was received. ZL1TO / ZL1WGL

Minutes of the October meeting. The report in October QUA was approved. ZL1WGL / ZL1BQA

Correspondence:
Inward - Newsletters from Branches as listed in October QUA, plus Branches 13/25, 29, 86 have been circulated to the committee.

Outward - Draft letter to Auckland Council re request for permanent fence for consideration. Subject of discussion in Zoom meeting.

Letter to be written to Registrar of Incorporated Societies explaining the AGM will be delayed,- in response to advice finance report is due 31 December.

The correspondence report received. ZL1TO / ZL1WGL

Finance:
Income: Nil
Expenditure: Contact Energy $55 paid 4 October
Contact Energy $43.27 to be approved tonight for payment tomorrow.
We remain in credit with Watercare.
Balance in Current Account at 31 October is $1831.48
A draft finance report for the annual general meeting has been circulated to the committee.
The report was received and payments approved.
ZL1BQA / ZL1TO

General Business:

Peter ZL1PJH said some potential speakers have been turned off by the long distance required to travel to our meeting. The Zoom presentation by Douglas ZL1BFS worked well, and this method would perhaps suit other distant speakers in the future.

Gary ZL1WGL has been approached by FMG Insurance. Cover for $72000 sounded right to this meeting.

The annual general meeting will be after we get out of Covid lockdown as an electronic meeting would disenfranchise some members. Nominations for office will close a fortnight before the advertised date of the AGM.

The meeting closed at 1940 hrs

In the Zoom meeting which followed, it was agreed that the letter to Council should not be sent and instead we should be proactive in fencing off the narrow alleyway that faces Carls Junior. The structure should comprise sturdy fence posts with palings at least 25 mm thick. Stainless steel screws rather than galvanized nails. Two sturdy posts, and four bags of premix concrete would be required. Discussion can take place this coming Sunday.

Mike ZL1UOM reported that he has reattached the chain at the skate park end on a recent visit.

1942: The World's First Nuclear Meltdown

Peter Henderson ZL1PJH

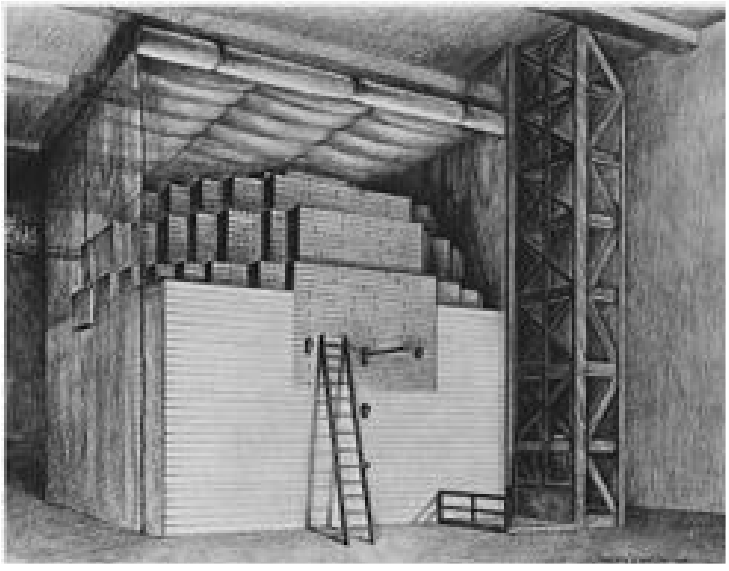
It is the 2nd of December, 1942, and a group of about 40 scientists watch from a balcony in the university of Chicago's Stagg West football training hall. Below them is the world's first atomic pile. Enrico Fermi, the world's foremost nuclear engineer, has worked with his engineers to build the pile over the last two weeks. The pile consists of 57 layers of uranium oxide and carbon graphite, most of it packaged in variously-sized cardboard boxes. There are also 13 long strips of cadmium threaded into the mass of cartons to act as dampeners. Fully completed, the pile now resembles a cube the size of an army truck and is covered in the same material used on Goodyear aerial balloons.

As the pile is built, a bunch of sensors are inserted into spaces within the pile to warn the scientists of radioactivity. Apart from a couple of click-clacks heard the day before when a cadmium control rod was moved a few inches away from the pile and then returned to its original position, there have been few indications the pile is active. At the moment, the neutron counters are quiet. The pile is simply a large mass of cardboard boxes sitting within a hall previously used by the university football team. Enrico Fermi, who emigrated away from his native Italy after Benito Mussolini decreed anti-semitic laws similar to those of Adolf Hitlers's Germany, has calculated that when the last cadmium strip is removed from the pile, it will reach critical mass. If left unchecked it will develop such a strong reaction that everyone in the building will die in a fiery meltdown and radioactivity powerful enough to make Chicago uninhabitable.

Most physicists who worked on the atom in previous decades still believe this reaction is impossible. Ernest Rutherford described talk of a huge energy release from the atom as 'moonshine'. Hitler's leading nuclear scientist Heisenberg reported to Albert Speer that experiments on atoms might take decades, even lifetimes, to complete. Robert Oppenheimer, the leader of the US nuclear bomb mission, and his team, think otherwise, and have begun to assemble a team of physicists and engineers to create a bomb before German or Japanese scientists begin to believe it can be done. Oppenheimer now hopes Fermi can prove 'critical mass' can be reached.

Around 2.30 in the afternoon, Fermi and his team switch on the instruments attached to the pile. They again test their control rods to make sure they can dampen the pile if needed. Fermi works through a check-sheet, calculating the expected output before engineers remove each cadmium strip in turn. He consults a graph of expected values after they remove each strip and is pleased with his results. Finally, all but one of the strips are gone and Fermi instructs engineer George Weil to remove the last one. After a few seconds, the neutron counters begin to click. Fermi raises his hand. 'The pile has gone critical', he announces, but appears calm. The instruments click louder and faster as the reaction increases in intensity. Fermi calculates the pile is producing barely half a watt in energy but if left unchecked will meltdown in a fiery disaster in about 90 minutes. He waits 3 minutes and 45 seconds. Then he orders the strips reinserted and locked.

Chicago did not explode in a cataclysmic meltdown in December 1942. There was, however, a kind of internal meltdown. What most scientists had believed was 'moonshine' was found to be indeed possible. Fission and hydrogen bombs were coming. Nuclear power plants would soon exist. Several of the scientists watching from the balcony were already asking whether they should even be working on this technology. So Chicago did not disappear in a fiery cloud - but the world changed nonetheless.



From the Editor

Meltdown in a graphite moderated nuclear reactor could not result in the type of explosion in a nuclear weapon. The graphite acts to slow the surplus neutrons to 'thermal' speeds and thus to increase the neutron cross-section for capture by the next atoms in the chain.

A fission nuclear bomb uses fast neutrons in its chain, and the critical mass must be assembled very quickly – in much less than a millisecond. The bomb will be a fizzer if its fuel expands beyond the critical size before the chain has spread throughout it. The Hiroshama bomb "Little Boy" used a cannon to assemble two lumps of Uranium 235 into a super critical mass. The Nagasaki bomb "Fat Man" was a hollow ball of Plutonium 239 which was compressed by an implosion to a denser lump which by being of smaller size then exceeded the critical size for that isotope.

There have been around 30 incidents of meltdown since 1942. Some were deliberate, in an effort to help design systems to prevent meltdown. Others were in power stations such as at Three Mile Island, Fukushima, Chernobyl, Windscale, Sellafield and Chapelcross. Several nuclear powered submarines have arguably suffered meltdown – the K8, K27, K140 and K431, but according to recently declassified documents not the USS Thresher nor the Scorpion.

There are some analogies between a nuclear chain reaction and the spread of a contagious disease like Covid-19.

NEWSLETTERS FROM OTHER BRANCHES

13/25: (October) Encouraging embers to rotate offices at AGM election. Telescoping tilt over tower for removal. Baluns. 'So you still have your licence but haven't operated in years' – a very good article from K8ZT.

29: New newsletter format designed to be mobile phone friendly. AGM moved to February. A mathematical puzzle. Old 29ER newsletters being scanned and to be placed on the club web site. Merv Adair ZL1SH silent key.

65: Virtual AGM 10 November. St Kitts active mid November, Bonaire Island end of November. Editor rambling on Covid compared with World War 2. DC power supplies. James Webb telescope due to launch 18 December. Lucy spacecraft to fly-by Trojan asteroids. Android phones vulnerable to Flubot. Why radio amateurs are called hams.

66: Cover photo contesting at night February 2005. AGM by Teams 8 November. Klondyke site secured for 10 years. Repeater reports on 670, 690,850, DMR UHF, 560, Brynderwyn and Klondyke sites. Designing a linear power supply. VHF/UHF contest 4&5 December.

80: Meetings by Zoom. Offer of launch of KiwiSAT was too short a window. Mistake at Tauranga City Council when archiving Environment Court decision on antennas.

86: Cover photo – exterior of Musick Point club house. Good propagation reports to Slovenia, South Africa by grey line long path. Repairing the club Venetian blinds. The DX Commander all band vertical antenna. H Night – Wednesday 8 December.

So You Still Have Your License but Haven't Operated in Years

A Guide to Getting Back into the Hobby

Members are encouraged to have a good look at a web post by Anthony Luscre, K8ZT.

The article is addressed to the inactive Hams out there, who Anthony would like to welcome back on the air. He says it's time to dust the cobwebs off that old equipment or acquire new gear to replace what you sold or gave away. Much about the hobby is still the same, but a few things have changed thanks to computerization, online activities, and other advances in the world of telecommunications. As you will notice, many of the changes involve three-letter Acronyms or Initialisms, such as DMR, SDR, and FT8.

While those coming out of retirement appear to be Anthony's target, there is plenty of material for current hams to spread their wings.

https://www.onallbands.com/so-you-still-have-your-license-but-havent-operated-in-years-a-guide-to-getting-back-into-the-hobby/