RADIO SOCIETY

of Great Britain

PROPAGATION STUDIES COMMITTEE

Minutes of a meeting of the Propagation Studies Committee held in Leicester on Saturday 12th May 2012, commencing at 1300hrs.

1. Members present

Steve Nichols	G0KYA	Chairman
Chris Deacon	G4IFX	Secretary
Prof. Martin Harrison	G3USF	
Ron Smith	G3SVW	
Gwyn Williams	G4FKH	
Dr. John Worsnop	G4BAO	
Alan Melia	G3NYK	
Prof. Barry Chambers	G8AGN	
Dr. John Gould	G3WKL	RSGB Board Representative

Apologies for absence had been received from Marcus Walden G0IJZ, Neil Clarke G0CAS and Sam Jewell, G4DDK.

2. Minutes of last meeting held on 15th October 2011

Accepted as a true and accurate record.

3. Matters arising from the minutes

Item 3: The new PSC Yahoo group seems to be working satisfactorily. Compared with the previous facility it provides additional functionality, including email history and a file sharing area.

Item 4: The Chairman reported that he had written to Leslie, G0CIB to thank him for his contribution to the PSC over a number of years.

Item 4: Further to the proposal to invite DL/GM4OGI to join the meeting as a corresponding member, no reply had been received to emails.

Action: G4BAO to follow up via G4DDK

Item 5.4: G3NYK has contacted the BAA Radio Astronomy Group and there is some interest in sharing meteor observations.

Action: G3NYK to maintain contact.

4. PSC membership

The meeting welcomed its new RSGB Board representative, John Gould G3WKL. There was a discussion about how to attract the next generation (under 50!) to the PSC and it was agreed that the starting point for this is to encourage an interest in propagation in general among younger members, which is of course already a key element of the PSC remit.

5. Topics for discussion

5.1 PSC involvement in Newark Hamfest/RSGB Convention

There was a discussion about the fact that PSC did not attend the last year's Newark Hamfest because of an RSGB request to save money, despite the fact that many other committees were represented. The purpose of attendance would be to promote an interest in propagation and also to answer individual members' questions, on the basis that propagation reflects one of the unique features of amateur radio which need to be promoted. It was agreed that the PSC will plan to take a stand at the 2012 event.

Action: G0KYA

There was also a discussion about the use of newer media such as Twitter to promote interest in radio propagation but no specific action was agreed.

5.2 RSGB Matters

G3WKL gave the committee a briefing on the development and current status of the RSGB strategy and of the National Radio Centre and of the proposed changes to society governance arrangements. Both presentations are stored on the PSC Yahoo group and available to PSC members, but points of particular relevance to PSC were as follows:

- RSGB amateur radio publications are considered to be vital because of the lack of alternative publishers. There is the possibility of moving to e-publishing but there are cost and technology obstacles

- Recent progress in licensing and amateur privileges includes the new 472kHz band, and 5MHz is in progress. A spectrum auction is coming up which the society is watching but it will wait to see what is available free after the auction.

- The society's view about RadCom is that it is pitched at about the right level, with equal numbers of complaints being received about it being too technical and about it being not technical enough! There is the possibility of adding separate electronic supplements for simple and advanced topics at some point in the future.

- The society is urgently looking for ways to make membership more attractive by offering more services to members only.

Further to the last point, G3WKL asked the meeting what the PSC could provide that could be made available to members only. In other words, what would members value that the PSC could lead and promote?

G0KYA commented that a package of RadCom propagation articles has been downloaded 3,500 times from his own website, the RSGB having said that it wasn't interested in publishing them itself. Other suggestions included a 'blog' and a 'the doctor is in' feature (c.f. ARRL). The possibility was also raised of sourcing ARRL material and making it available to RSGB members.

There was then a discussion about a strategy for the RSGB website to put simple material on the outside of the 'paywall' but more advanced material behind it, provided that a core of material is available to all.

EMC RadCom articles have already been separated as PDFs and indexed by the EMC Committee. The Technical Committee is considering doing the same for technical articles. There is the potential for PSC to do the same for propagation-related articles, possibly adding other services targeted on what members want and what questions they ask. This could be either original items or material sourced from elsewhere, on a 'knowledge aggregator' type of model.

G4FKH and G0KYA both suggested specific propagation-related services that could be provided behind a membership wall.

Action: G3WKL put G0KYA in touch with the Technical Committee to discuss the possibility of working together on the propagation-related articles

Action: All to feed back ideas to G0KYA

6. Projects

6.1 Six and Ten Report (G3USF)

Martin G3USF continues to produce the Six and Ten Report and is continuing to do a lot of data analysis on 6m TEP – why do certain paths work and other paths don't work? In April this year, why did Southern African TEP not reach as far northwards as DL? Why is it that despite a very large number of reports, very little propagation has been observed to anywhere other than ZS6? Why is it that 6m signals often seem to be better than 10m signals – is it just that antennas tend to be higher gain at the higher frequency?

6.2 GB2RS propagation bulletins (G3USF)

Martin reported that with the ending of the postal version of the GB2RS script, Neil G0CAS and he have decided that a single person should take over the whole responsibility for producing the weekly propagation report. Neil is now performing that task, incorporating specific items from Martin.

6.3 LF Propagation (G3NYK)

Alan G3NYK said he had continued to post propagation reports up to February when his computer crashed and hadn't been able to restore it since.

Activity was described as lower than previously but generally 'not too bad'. Some quite substantial steps forward have recently been made on 136kHz in that European stations have now been copied in Australia and Venezuela. Modern digital techniques now allow (for instance) US stations to be regularly copied in Europe.

There was then a discussion about how noise levels have increased over the last ten or 20 years. G0KYA has been conducting regular noise level measurements for many years using identical equipment and they show a steady increase.

Action: G0KYA circulate details about how he conducts these measurements.

7. Reports

7.1 Chairman's report (G0KYA)

Steve had recently given talks on propagation to a number of clubs. He is in regular contact with Jim Bacon G3YLA, who is still doing work on Es, exploring his theory about gravity waves.

In January, Steve went to Iceland in the hope of seeing aurora and just about managed to see a faint event. Unfortunately the weather was too bad to see more. Steve recommends Tromsø as having much better weather and therefore a better chance of seeing the aurora.

Steve's professional work is involved with Inmarsat, which is generating a lot of data on 50 – 60 GHz propagation. Humidity is a major factor at those frequencies.

7.2 RSGB Board issues (G3WKL)

Covered in earlier item.

7.3 Gwyn (G4FKH)

Gwyn is still producing his regular propagation forecasts. He has also written an article for the June RadCom on the progress of the current solar cycle; his view is that we are now close to the maximum.

7.4 Barry (G8AGN)

The name 'Nanowaves' has now been coined to describe communications in visible light, infrared and ultraviolet. There is now a Yahoo group with about 100 members, mainly from the UK.

The current state of play in the UK is that paths of 120km at night and about 55km during the daytime, hilltop to hilltop, have been worked but they are running out of viable line of sight paths. The equipment is very simple but it is bulky. Propagation is quite similar to microwaves. Interest is growing in non-line of sight paths including cloud scatter – long paths seem to be easier than short paths and up to 300km has been worked in Australia where there is little light pollution and haze.

Barry is now working on propagation predictions for long paths, including the opportunity for amateurs with no specialised test equipment to assess paths. An article in next month's RadCom from G8CYW describes observations of chimneys – atmospheric refraction causes the apparent height of distant chimneys to vary and he suspects that might lead to a simple propagation prediction approach.

7.3 John (G4BAO)

John reported on progress in the development of GB3WGI, the planned 2m transatlantic beacon. A site has been secured (an MOD/Police site) but the team are still missing the field strength plot that is required. An application has been made to Ofcom for a 'pathfinder' licence for a normal 100W beacon, with the hope that after a bit of operational experience a 1kW licence can be applied for. The planned frequency is 144.487 MHz and the hardware is awaiting shipping from the US.

John also reported that there is now an operational moonbounce beacon on 1296.000MHz. ON0EME is sitting on a large container, tracking the moon and it switches off when moon is below 10 degrees altitude. Website www.on0eme.org

Finally, John reported that the UK Microwave Group looking to sponsor a network of microwave SDRs for beacon monitoring. Some funding is available. A limited project has already taken place and it demonstrated that fairly long-distance reception is possible even with an omnidirectional antenna.

7.4 Ron (G3SVW)

Ron is still giving talks to clubs, including a regular antenna and propagation clinic at the South Manchester ARC. He is investigating ideas for a group activity involving critical frequency monitoring on, perhaps, 80m.

7.5 Chris (G4IFX)

In his role as Secretary of the UK Six Metre Group, Chris has been involved in providing input to the revision of the IARU Region 1 6m, bandplan including an allocation for timesharing 'DX' beacons in a reserved segment near the bottom end of the band. There is an opportunity to exploit suitable beacons for more organised and automated propagation monitoring.

7.5 Marcus (G0IJZ)

Marcus had sent in the following report by email:

A paper has been published in Radio Science based on my analysis of 5 MHz NVIS beacon measurements and comparison with ASAPS and VOACAP HF prediction software: http://www.agu.org/pubs/crossref/2012/2011RS004914.shtml

I will also be presenting a paper next week at the IET IRST 2012 conference comparing Chilton ionosonde measurements with ASAPS and VOACAP predictions over the period 1996-2010. This paper might be of interest to UK amateurs and should be available shortly after the conference:

http://conferences.theiet.org/irst/programme/day-two/index.cfm

8. Any other business

John, G3WKL said that he had received complaints about the lack of a guard band around the HF beacon frequencies. Martin G3USF responded that a +-500 Hz guard band is in place but the problem is compliance.

John also asked whether it would be feasible to put together a simple, easy and repeatable way of measuring trends in noise floor. Apparently it is a IARU policy to encourage this (see earlier item).

9. Closure

The next meeting was provisionally booked for Saturday 6th October. The meeting closed at 1625hrs (G3USF had to leave earlier at 1605hrs).

Chris Deacon G4IFX
PSC Secretary