



Minutes of the Propagation Studies Committee

Interim meeting by video conference

16 May 2020

Attendees:

Steve Nichols	G0KYA	Chairman
Chris Deacon	G4IFX	Secretary
Alan Melia	G3NYK	
Dr Peter Duffett-Smith	G3XJE	
Ron Smith	G3SVW	
Prof Barry Chambers	G8AGN	
John Rogers	M0JAV	RSGB Board Liaison

1. Apologies for absence

Apologies had been received from John Worsnop, G4BAO.

2. Matters arising from the minutes of the meeting held on 19 October 2019

These minutes had previously been approved via email and posted on the RSGB website. Matters arising are dealt with under other agenda items.

3. PSC membership

Current membership and roles were agreed to be satisfactory. It is not felt necessary to recruit any additional full members to the committee at the moment.

John Rogers, M0JAV was welcomed (back) to the meeting as the RSGB Board representative.

4. Topics for discussion

4.1. RSGB website update

Martin, G3USF's 28MHz beacon list is now available on the RSGB website under the PSC section>> Propagation beacons. It has been updated it with a few changes and further updates and additions will be necessary to make it as up to date as possible

Action: G0KYA/G3NYK

It was agreed to publicise the newly-posted beacon list via Facebook etc.

Action: G0KYA



The HF propagation video has now been placed on the RSGB web site for general use. With the lockdown it was felt that it would be more useful for self-education purposes that way. It has had 1,523 views so far. It was also noted that the number of hits on the RSGB website had gone up by a factor of 2.5 during the lockdown.

It was suggested that perhaps the VHF propagation video could also be added to the RSGB website.

Action: G0KYA to discuss with John, G4BAO.

Alan is looking for more contributions to put on the 'PSC members activities' page on the RSGB website.

Action: All

The action from the last meeting to consider adding items on the PSC website to signpost existing services like wsprnet, pskreporer, on4kst and the DX cluster, has been carried forward.

Action: G3NYK

4.2. Establishment of the 'Les Barclay Award'

The new award is definitely going ahead, and the wording has been agreed for a silver platter. Unfortunately, the actual engraving has been held up by Covid-19 because the engraver can't get stock.

As decided at the October 2019 committee meeting, the award will recognise those who have made excellent contributions to propagation research and understanding, ranging from conducting original research through to spreading knowledge about propagation and inspiring interest among amateurs.

It had previously been agreed to make the first award in 2021 rather than trying to rush it for 2020. Steve asked all committee members to consider suitable candidates for 2021.

Action: All

5. Projects and potential projects

5.1. RadCom HF predictions

The current approach is to leave the RadCom printed forecasts as they are, although there has been another complaint that they are too pessimistic because they are designed for a relatively basic station setup. Possibly the text should be made even clearer about the assumptions (power, antenna) underlying the predictions. It could also highlight the availability of our online services which do allow power and antenna to be changed.

Action: G0KYA discuss with Gwyn, G4FKH.

Post-meeting note: G3XJE and G4FKH have now agreed a change in the printed format to include predicted signal strengths weaker than S1 where appropriate. They have written



an explanatory piece for publication in the September edition of RadCom, where the first table with the revised format will also appear.

5.2. Other projects for the next 12 months

No new projects were suggested. Chris suggested that we need some kind of process to search out and encourage projects, rather than just relying on our own ideas.

Action: G4IFX to consider how that might be done and potentially make a proposal.

6. Chairman's report (G0KYA)

6.1. GB3RAL beacons

Steve reported that the appeal published in RadCom came up with two possible new locations for the beacons.

The first offer came from Pete Norman 2E0PNZ, a volunteer at the NRC. Pete lives on a farm which is in an excellent radio location and has potentially suitable facilities. The second offer came from Adam Willis, who may be able to arrange access to an Aircall radio site. It is not clear at this stage whether Pete and Adam are offering to act as beacon keepers or just to arrange the availability of a site.

Unfortunately, Mike Willis, the key contact with RAL, believes it would be inappropriate to investigate potential sites before the beacons have been recovered from RAL Space and their condition is known. It will not be possible to recover the antennas.

Action: G0KYA to liaise further with Mike Willis.

Action: G4IFX offered to contact Mike Willis on behalf of the UK Six Metre Group, to emphasise the uniqueness of the RAL beacon cluster and the strong desire to see them on the air again.

6.2. Poldhu WSPR beacon

Steve reported that he had received an update from the Poldhu club about their WSPR beacon project.

A micro-controller has been programmed to provide the WSPR signal, the CW identifier and the required general control functions and the desire is to run the beacon on two frequencies, switching between them. The club believes that will be a useful propagation tool. The next stage of the project will be to complete the PA and its band filter switching, once the two beacon frequencies have been identified.

Unfortunately, the club's antennas generally have suffered over the winter. Storms destroyed three wire aerials, the hex beam and the 2 m beacon aerial and the only things left are two VHF verticals and a small vhf yagi. This means that the current VHF beacon is out of commission. The beacon transmitter was already becoming unreliable, so when the HF beacon project has been completed, they are proposing to upgrade the existing 2 m beacon to WSPR format using the same controller as the HF beacon with a commercial PA block.



6.3. Potential new beacons

Two potential 10m beacon proposals are under discussion, GB3NSJ on 28.252 (Worthing), GB3XMB on 28.287 (Lancashire).

7. RSGB Report

John, M0JAV reported that the RSGB's, "Get on the Air to Care" campaign has led to greatly increased activity. In April, 152 new members joined the society and twice as many foundation books were sold than usual. There is a backlog of 1000 people wanting to book exams. Membership is now 21,145 and the RSGB's financial results are expected to be better than originally anticipated this year.

For the next Volunteer Leadership Team, a report on achievements and successes will be requested. The second RSGB Director on the Innovation Team (in addition to John) is now new board member Andy Mace, M0MUX.

John also reported that the IARU EMC committee have now set up a noise measurement system which uses a 1m short vertical 1m above the ground.

8. PSC member activity

8.1. Chris, G4IFX has just finished writing a paper with Ben Witvliet, PE5B about his approach to measuring 50 MHz Es polarisation and fading. This will shortly be submitted to IEEE Transactions in Antennas and Propagation. The paper mainly concentrates on the method but does also include some interesting initial findings. A full analysis of the recordings made in 2018 will be the subject of a future paper.

8.2. Barry, G8AGN showed his newly constructed 'WeatherBox' which has sensors to measure real time pressure, temperature and humidity at the station location, based on which it predicts the probability of propagation between 1 GHz to 1000 GHz. It features an Arduino with an SD card for data logging and has a keypad and external sensors. It also includes a GPS to give a ten-figure locator, plus date and time. A particular objective is to use the box to make it easier to predict when communication will be possible on the 122 GHz band, which is subject to absorption by water vapour and oxygen. Barry also reported that the 122 GHz transceiver kit mentioned at the last meeting is now being manufactured.

8.3. Peter, G3XJE reported that he has now joined the RSGB Technical Panel and is helping to review RadCom articles. He is likely to become the editor of RadCom Plus, for which he would be interested to receive propagation articles. Has also written three articles for RadCom. Peter also introduced a new project idea for discussion. If SSB is like talking on the telephone and FT8 is like a very-short text message service, is there something else equivalent to 'long texting'. Imagine a 1kHz band developed using multiple digital tools to communicate more complex messages with multiple 'WSPR' signals within a single passband, with a longer message split between perhaps 100 separate WSPR channels. The committee agreed that this would be an interesting topic to pursue.

8.4. Ron, G3SVW has been doing a lot of work with his local club during the lockdown, doing lots of training delivery via Skype and trying to instil in the trainees enthusiasm for the magic of propagation.



9. Any other business

Under this item, a discussion took place about what PSC could set up as a 'youth challenge' project.

10. Date of next meeting

Provisionally Saturday 17 October 2020.

Chris Deacon G4IFX
PSC Secretary