

# ***RADIO SOCIETY***

of Great Britain

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CONFIRMED

## **PROPAGATION STUDIES COMMITTEE**

Minutes of a meeting of the Propagation Studies Committee held in Leicester on 22 September 2007 commencing at 1310hrs.

### **1. Members Present**

Prof. M. Harrison	G3USF	Chairman
Mr S. Nichols	G0KYA	Secretary
Mr C. J. Deacon	G4IFX	
Mr A. Melia	G3NYK	
Mr R. Smith	G3SVW	
Mr L Butter-Fields	G0CIB	

Apologies for absence were received from Gordon Adams G3LEQ and Steve Reed G0AEV.

### **2. Minutes of the previous meeting**

There were no formal minutes available from the previous meeting, but members recalled that the meeting had been attended by G3USF, G0AEV, G0KYA, G4IFX, G3NYK, and G0CIB, along with Don Field G3XTT and Gordon Adams G3LEQ.

There had been some discussion about whether committee members could produce more features on propagation issues for RadCom; a request for a propagation expert to attend a war crimes tribunal in The Hague (this was referred to RSGB HQ) and G0KYA's trip to the Norway LA Dxers conference. G0AEV formally resigned from the post of PSC secretary and was thanked for all his efforts over the years.

### **3. Matters Arising**

#### **3.1 Membership**

It was suggested that with the loss of G0AEV a new PSC member with interest in HF matters and/or automated beacon monitoring should be sought. G3SVW would ask a couple of members of his local south Manchester club to see if they were interested.

It was also agreed that Barry Chambers G8AGN should be approached as a potential member in view of his interests in microwave and laser propagation.

#### **3.2 Automated beacon monitoring**

There was extensive discussion around automated beacon monitoring and logging. The view was that if the UK is to have effective multiband beacons then we should

be able to offer state-of-the-art beacon monitoring software that could be used to gain meaningful data.

This could be similar to that used on the International Beacon Project chain, such as the Faros software. G3SVW will talk to some of his club members to see if anyone would be interested in helping with the project.

### 3.3 DUBUS Transatlantic beacon project

Volker DF5AI and DUBUS editor Joe, CT1HZE had been in touch with details of a prospective 2m (100W) beacon that could be established in CT, beaming across the Atlantic. There was also the possibility of a 6m beacon beaming towards North America too. He was looking for encouragement and approval for the project in advance of the next IARU conference. The committee said that any such project would get its moral support.

Action G3USF

### 3.4 IARU Region 1 Conference

Martin G3USF is planning to attend the next Region 1 conference in Croatia in November 2008, possibly as beacon coordinator. There was discussion about interference to the 14.1MHz beacon band slot, possibly from foreign fishermen and contesters.

The suggestion was that contesters should be reminded to stay away from 14.1MHz and that points penalties might even be applied to those who transgress.

### 3.5. Multiband Beacon Project

RAL now has the 40.050 and 60.050MHz beacons operating. These are GPS-locked providing stable timings and frequencies. There are now four continuous beacons on 40, 50, 60 and 70 Mhz at the site. It is not yet known when the 24 and 28MHz RAL beacons will be put back on. Both the 40MHz and 70MHz beacons have been reported around Europe via Es. UKSMG has donated 6m modules for the 50Mhz beacon, which has a two-minute sequence – one minute JT65B, a further minute with an AIA sequence, a CW plain carrier and a period of phase reversal.

### 3.6 6 and 10 reports

Steve G0AEV has not been active so no 6 & 10 reports have been issued. Some enthusiasts have expressed their frustration at the lack of reports. G3USF would like to get the report going again and there was some discussion about PDF creation software that might help.

#### **4. Projects and other discussions**

##### 4.1 Grey line

Steve G0KYA reported that there had been no greyline research over the summer period, but that he hoped to contact some JA amateurs to see if beacons could be put up during the winter solstice period.

##### 4.2 Other activities – G0KYA

G0KYA reported that his feature on the GB3SSS Marconi beacon would now appear in the December issue of QST. He will also give a talk on the subject at the RSGB's HFC. The talk will also be given at the Norfolk Amateur Radio Club. Steve also submitted propagation predictions to 33B7C for use in RadCom. He also continues to produce a monthly propagation prediction programme for the "This Week in Amateur Radio" Podcast. This won a Communicators in Business Award which was presented by Steve Cram at a ceremony in Newcastle. A press release and photograph will be sent to RadCom.

Action: G0KYA

##### 4.3 LF

Alan G3NYK said that he continues to publish a daily LF report on his web site at <http://www.alan.melia.btinternet.co.uk/>. This has received 30,000 hits in five years. He added that the RSGB's LF reflector has become a centre of interest for Lfers worldwide. He is also looking at oblique sounding using stations in Magdeburg and Budapest on 136KHz. The British Astronomical Association is also looking at using LF to look at the incidence of solar flares and gamma ray bursts (GRBs). Alan will be giving two talks on LF propagation at RSGB HFC.

##### 4.4 Posters

No further work has been done on posters although there was some discussion about the possibility of producing A4/A5 datacards that could be given away at RSGB events. There was also some discussion about having them inserted into RadCom, although it is understood that there are weight problems.

#### **5. Activity reports**

##### 5.1 Chairman's report

###### HF Beacon Frequencies, Band Plans and QRM

Members will have noted the HF Manager's comments in the October 2007 about deliberate QRM on the HF bands. I am sure that PSC will endorse the Society's efforts to encourage concerted international action, despite the feeble attitudes of some national societies at the interim conference in Vienna. I remain concerned over the extent to which the 14MHz beacon segment is subject to intrusion. The stations who see this as a tuning frequency, transmissions from stations attempting to 'police' the frequency and recurring ssb transmissions from non-amateur sources are minor

problems compared with contest operations. These are *not* confined to a mere handful of major international contest weekends, but on my reckoning bleed over the IBP beacons for many hours on about twenty weekends a year. I guess we are supposed simply to 'lighten up' about this?

I also note with concern a recently circulated draft band plan from Radio Amateurs of Canada. This would limit the HF beacon segments to 1kHz (i.e. centre frequency +/- 500Hz) and designate the 28200.5-28300 segment as 'phone/cw' with no priority anywhere for beacons apart from the IBP 1kHz. (G3PSM subsequently circulated a later report indicating that Region 2 had approved an HF band plan that was, overall, very close to the Region 1 plan and left references to beacons unchanged. It was thought that the Canadian proposal would not be implemented.)

The question of beacons below 14MHz will be discussed by the Region 1 conference next year. While that looks a long time ahead, papers will have to be submitted well in advance. I will submit a report in my capacity as HF Beacon Coordinator for the region and will circulate that to PSC members for comment in due course. The Society's HF Coordinator will be preparing a submission on wider beacon policy in the name of the Society and I am sure I will be given a sight of it before it receives Board approval.

### Handbook

I am happy to report that Alan and I completed revision of the Propagation chapter of the Handbook on time, and while inevitably we could have done with more space and it would have been nice if we could have had a couple more graphics, we think that we have managed to refresh and update the chapter in useful ways. And we are pleased that the new edition will appear so soon. The previous one sold much quicker than we had expected.

### 500kHz

I received an email from G0NBD, who has an NoV for 500kHz, and broached the question of beacon operation in that part of the spectrum. As this is a UK issue rather than an international one I referred him to our HF manager, G3WKL. John suggested that soundings be taken via the LF group reflector, possibly leading to discussion at HFC. I agreed with John. PSC members may wish to express an individual view via those channels. It is of course open to PSC to express a collective view, should it so wish.

### MUF

I recently received an email from an overseas listener asking what is the highest frequency at which F-layer propagation has been convincingly demonstrated – presumably excluding anomalous events like tep. I could not find the answer in my various reference books. Anyone know?

### BPL

NATO has recently published a substantial report on BPL. If I have transcribed the URL correctly, it can be found at

[http://ftp.rta.nato.int/public/PubFullText/RTO/TR/RTO-TR-IST-050/\\$STR-IST-050-ALL.pdf](http://ftp.rta.nato.int/public/PubFullText/RTO/TR/RTO-TR-IST-050/$STR-IST-050-ALL.pdf). (Why do they have filenames that so readily fall foul to fat-finger problem?)

Preserving the noise floor – of interest to all of us, but none more so than to those of us who monitor weak signals – is a question raised at the Vienna interim, conference and it will no doubt be raised again at the triennial conference next year.

#### New Microwave Beacons Proposed in GM

GM4CXM – a very well-know name in this part of the spectrum – recently drew attention to proposed GB3CSB on 1296 2320 and 3400, which is currently out for consultation. He specifically draws attention to the possibility of research into aircraft scatter since the location would be in line with most UK flight paths (as well as tropo to all the UK and the Continent). Have we any comments on this proposal; specifically, is there any way we could encourage people here or on the Continent to pursue the research possibilities. See [www.rayjames.biz/gm4cxm/id14.html](http://www.rayjames.biz/gm4cxm/id14.html).

Speaking of aircraft scatter, In June, Dave Ackrill raised a query about aircraft scatter at VHF/UHF, to which Howard (M1BWR) replied. Anyone any further comments, suggestions for further work?

#### Tunnel Propagation

My attention was drawn recently to a paper in a recent IEEE Antennas and Propagation on propagation in tunnels at 450MHz and 1 GHz. This gave rise to an interesting technical comment. Does anyone have access to this paper – even an abstract would be of interest, especially with my EMCOMMS hat on? (Raynet has, over the years, been involved in several tunnel incidents and exercises.)

#### Non-Reciprocal HF Propagation

In June, Tomas, NW7US, raised a question about non-reciprocal propagation at HF, mentioning two of his CQ columns: <http://hfradio.org/ace-hf/ace-hf-reciprocal.html> and <http://hfradio.org/ace-hf/ace-hf-demystified.html>. At the time, nobody responded. Why not take a look at them now and comment?

#### Unusual Propagation.

In July, I drew attention to a report by G3KWK of copying J8/W6JKV on a bearing of 330 degrees at 1302 on 4 July with an 'auroral' note. There was a very mild geomagnetic disturbance around then at high latitudes but that does not, of course, prove anything. So this will have to remain an intriguing anecdote. I note the incident here in case anyone has any further thoughts.

#### GB2RS – Report from Gordon L Adams G3LEQ - GB2RS News Manager

The Propagation Report continues to be included in all the weekly GB2RS news transmissions each Sunday on HF, VHF/UHF and ATV. As well as voice the report also goes out on MT63-1kHz bandwidth long interleave data mode at 100wpm on 3600kHz at 20.15hrs and on 1840/5279kHz at 20.45hrs local time. The latter data service has been provided for some years now but there appear to be only a small

number of regular recipients. I therefore intend to review the MT63 service at the end of 2007 and if the take-up does not increase it may then be discontinued.

## **5.2 Reports of activities**

There were no further reports of activities from PSC members.

## **6. Any other business**

G0CIB reported that all technical articles for RadCom will be reviewed by the technical committee before publication. There was also some discussion over the published accounts, although there was no relevance to PSC matters.

It was noted that G2AHU is not on e-mail and may not therefore have been aware of the meeting. G0KYA, as new secretary will try to ascertain who is actually on the RSGB's PSC reflector to ensure that it is up to date.

Action: G0KYA

G3SVW talked about S Meter Lite – a program for datalogging S-meter readings via your computer. This may have uses for beacon monitoring as it is simpler to use than SpectrumLab – see <http://www.seed-solutions.com/gregordy/Software/SMeterLite.htm>

## **7. Closure**

The next meeting was provisionally booked for Saturday 12 April 2008 at Leicester.

The meeting closed at 1630.

**Steve Nichols G0KYA**