

## EMC Committee Report

This report is to the Spectrum Forum in preparation for its meeting on 5<sup>th</sup> November.

The EMCC has continued to meet on a bi-monthly basis, to consider RSGB strategy and actions in the area of EMC. Topics in the last six months have included:

- a) The continuing matter of Powerline Adaptors. Here the European Commission continues to press CENELEC for a standard which legitimises the current level of wideband emissions from PLAs. The levels proposed are at +40 dB to EN55022 which the Society and others has argued is the relevant standard, but which the Commission has denied applies. A draft standard circulated earlier this year was put to a vote of National Standards Committees during the summer and failed to achieve the necessary level of support. Subsequent to that, the new version of EN55022 (2006) has come into force, with specific test arrangements for PLA.

The Commission has now confirmed that EN55022 (2006) applies to PLAs but still seeks the relaxation which would legitimise the current emission levels. However the size of the gap is now confirmed and visible to all.

I should make clear that PLAs under the standard are notched in the amateur bands, so the impact of the draft standard will be to confirm the notching and offer a continuing degree of protection in the amateur bands. But the rest of the HF spectrum does not fare so well, with techniques such as dynamic notching and dynamic power control being mandated to attempt to limit the more extreme effects of the emission envelope.

The Society, along with others, has not at this time taken the view that the draft standard should be supported, as it completely sets aside the Essential Requirements of the EMC Directive and our view is that this would require legislation in the European Parliament. Those in HR radio circles supporting the draft standard argue that the amateur service is protected, and so we should accept what is on offer, otherwise we may get a less favourable decision from the EC, which would rule itself.

As I write this, a report has become available that suggests that in the US, the “agreements” on protection to amateur services from PLT may be vaporising. See appendix.

The discussion continues !

- b) Solar PV installations. The Committee is aware of a few solar PV installations that have caused significant wideband noise problems to amateur installations. Sadly there is no standard for a complete solar PV installation (it is the invertors themselves which are subject to a standard) and so the position is a little confusing for the average person. The EMCC hopes to conduct a review of Solar PV installations to try to identify any trends in interference occurrence, and perhaps to identify characteristics of installations that cause problems.

- c) The EMCC is concerned to understand Ofcom's current position on interference investigation in cases of problems with reception in amateur installations. Two years ago, a trial (the "6dB" trial) set out to apply a "6dB worse" criteria to define interference cases which warranted investigation. The trial was stopped and Ofcom has not given details of what criteria it now applies to interference investigation. A meeting is scheduled with Mark Walls shortly to discuss this.
  
- d) The EMCC needs more resource. To handle the range of issues in its portfolio with confidence, we need more people who are prepared to devote the time and effort to the necessary research, tests and lobbying to achieve a result. Over the past year, meetings have been held with Ofcom, BIS and the European Commission, but much more is needed, and we need to become more active in concert with other users of the HF spectrum. We have good relations with the EMC standards world, and with some HF users, but much more time needs to be devoted to networking and lobbying. The position is not helped by the fact that I am currently also acting as Society General Manager, as well as Board member and Chairman of the EMCC and severely short of time as a result.

**Don Beattie, G3BJ**

**30 October 2011**

## Appendix

AS I wrote my report, the following came to hand. It has not yet been verified and I do not know the source date yet.

### RADIO RULES: FCC TURNS IT BACK TO HAM RADIO CONCERNS IN APPROVING MODIFIED BPL RULES

The Federal Communications Commission has affirmed its rules for Broadband over Power Lines or Access BPL with only minor modifications that do little to protect the Amateur Radio service and other High Frequency users from severe to intolerable interference.

According to the Second Report and Order issued by the FCC on October 25th, the rules it has created to govern Access BPL provide what it calls an appropriate balance between the dual objectives of providing for Access BPL technology that has potential applications for broadband and Smart Grid while protecting incumbent radio services against harmful interference.

Those incumbent radio services primarily comprise amateur radio operators and other users of the High Frequency spectrum. Hams started arguing against Access BPL when the commission first adopted rules for it in 2004, saying that in geographic areas where it was in trial that it severely interfered with their operations.

The American Radio and Relay League filed a lawsuit against the FCC in federal court, seeking full access to unredacted versions of staff technical studies upon which the rules were predicated. The ARRL was victorious. The FCC was ordered to supply the studies, allow public comment, and explain its method for measuring radiated emissions from Access BPL systems.

Now in its Second Report and Order, the commission said the resulting cycle of comments did not warrant any changes to the emissions standards but said that they were making several refinements none-the-less. And minor they are.

The Second Report & Order modifies the rules to increase the required notch filtering capability for systems operating below 30 MHz from 20 to 25 dB. It also establishes a new alternative procedure for determining site specific extrapolation factors and adopts a definition for the slant-range distance used in the BPL measurement guidelines to further clarify its application. Slant-range refers to the diagonal distance of a measurement device to an Access BPL transmitter mounted at the top of a power pole.

Access BPL is said to support data rates of more than 500 Mbps and first and last mile ranges of up to 1,500 meters. The commission said that while it endeavored to minimize interference to ham radio operations that it remains a possibility.

In the end the Commission concluded that some cases of harmful interference may be possible from Access BPL emissions at levels at or below the Part 15 limits. However the regulatory agency feels that the potential benefits of Access BPL service warrant acceptance of what they call a negligible risk of harmful interference that can be managed and corrected as needed on a case-by-case basis.

The commission noted that Access BPL provides yet another way to get broadband to the masses. This is one of the key objectives of the Obama Administration, and more recently, the International Telecommunications Union.

The big question now is what action the ARRL might take to stop the poorer forms of Access BPL technology from being deployed. We will all likely learn that in coming weeks. (FCC, RW, Others)

