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REPORT ON BPL

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Mixed Messages

If there is one thing which characterizes the previous year on the BPL front it is 'mixed messages'. Seemingly, every day there is some event somewhere either supporting or opposing BPL.

However, it would be fair to say that in most places where BPL technology has been trialed the road has not been easy, both technically and economically.

It is interesting to compare the amateur radio campaigns against BPL in Austria, the United States, and Australia.

Austria

Austria has a very rigid regulatory regime. Radio amateurs seem to have been able to use the existence of such rigid regulation to their advantage and have initiated a court legal action. The Ministry responsible has subsequently issued an order obligating Linz AG to operate its network without causing any malfunctions in other services.

ÖVSV President Michael Zwingl, OE3MZC stated "*The recent decision will be an example for authorities in other European countries facing similar problems in BPL trials.*" "*It took us some time, but we never agreed with the opinion of some authorities who have made a judgment between the importance of ham radio and BPL.*" Zwingl maintains that Austria's telecommunication rules conform with International Telecommunication Union (ITU) regulations and "*protect radio services and spectrum regardless of subjective importance.*"

The United States

The FCC changed their Part 15 Rules and Regulations in order to encourage the commercial rollout of BPL systems. The changes allow radiation from BPL systems at generic Part 15 levels (EMC levels) and also required interference mitigation on a case by case basis, and consultation between BPL providers and interference affected parties.

Due to the fact that the US has some (although not perfect) regulation in place, the ARRL has been partly effective in pressuring a very reluctant FCC to act against some BPL operators causing interference. The publicity surrounding these actions has possibly delayed wider adoption of BPL.

Regardless of the many interference complaints from US amateurs, and the financial and political strength of the ARRL, action by the FCC and by BPL providers has been slow and reluctant.

“Utilities with a heavy investment in BPL take a very defensive and posturing position. Any suggestion that their systems could be causing a problem is generally met with a knee-jerk reaction. The same has been true of politicians who have made political promises about BPL”.(Ed Hare, WIRFI)

Whilst opposing high interference potential BPL technologies, the ARRL has actively encouraged lower interference BPL technologies such as the Motorola Powerline LV system. They have even installed the Motorola system in the ARRL station W1AW to demonstrate the compatibility between Motorola BPL and amateur radio. In a regulatory environment such as now exists in the US, with high level support for BPL, supporting acceptable technologies while opposing non-acceptable technologies is probably a good strategy.

The ARRL has also been effective in working with other BPL equipment providers to lower the interference potential to amateur radio through more effective notching techniques. (Of benefit to amateur radio but not to other HF spectrum users).

Note: The Motorola system may have higher interference potential when used on the Australian power distribution network due to differences in network architecture.

Australia

In Australia no BPL emission limits exist other than generic EMC limits, which the WIA (and many others) believe are unsuitable for regulating emissions from BPL enabled power lines.

ACMA is taking a ‘gently gently’ approach to BPL, and seems reluctant to introduce emission regulation which could prevent innovation and the development of a potentially

socially beneficial broadband technology. However ACMA has a responsibility to administer the Radiocommunications and Telecommunications Acts which prohibit substantial interference to licenced radiocommunications services.

ACMA embarked on a public consultation process with stakeholders during the year. The WIA has been an active participant in ACMA's (formerly the ACA) previous work to provide a framework for trials of BPL systems. ACMA has recently notified the WIA of a forthcoming review of the BPL trial guidelines and has invited the WIA's participation in this process. It must be understood that the WIA is an important stakeholder in this debate and is taken seriously by ACMA, as are others.

At this time the WIA Board believes premature regulation in Australia would most likely be favorable to BPL, (in order to encourage trials of a potentially beneficial technology), and would probably not be to our advantage. However this is a strategy is based on the assumption that newly emerging technical and economic information concerning BPL will continue to be largely negative, and if not our position may change at any time. The question remains, is the WIA doing enough to counter BPL? Could it be done differently? Could it be done better? Should we/could we force ACMA to regulate like the US has done?

We should continue educating as many people as possible about the negative aspects of the technology at every opportunity, backed up by technical evaluation of active BPL trials. REAST has been particularly effective in measuring the interference from BPL trials in Tasmania and clearly demonstrating that 200Mbps DS2 technology still has very significant HF radio interference potential.

A New WIA Service - BPL Interference Advisory Service

More and larger BPL trials are now planned for Australia, and it is expected that greater numbers of radio amateurs may be adversely affected by BPL interference. It is also expected that those radio amateurs will wish to lodge interference complaints with ACMA and the BPL trial operator.

ACMA advise that they have investigated a number of complaints from radio amateurs of BPL interference which were found to be from non-BPL related sources.

The WIA believes that the responsiveness to, and efficiency in handling of, BPL interference complaints lodged by radio amateurs will be improved if complaints undergo a technical and administrative review process prior to being lodged with ACMA and the BPL trial operator.

Wrongly based interference complaints will be damaging to our entire effort against BPL interference. Wrongly based interference complaints must be avoided.

Lodging an effective interference complaint is not an easy task, and the WIA Board believes the WIA has an important role to play assisting radio amateurs to ensure that their interference complaints have maximum effectiveness.

A BPL Interference Advisory Service is being introduced. This Service is to be provided by and funded by the WIA, available to all Australian radio amateurs, providing the following services:

1. Validation of interference as likely coming from a BPL source, and
2. Assistance in preparing and lodging an effective interference complaint.

Looking Into the BPL Crystal Ball

Recently announced expansion plans and the pricing strategies of existing Telco's are making life difficult for new entrants into the broadband market. Truly portable wireless broadband services are expected to take a growing market share, (and a growing share of spectrum).

Many believe BPL will not be a successful competitor in larger population centers, and the market for BPL would be limited to regional towns, city fringe areas, and niche markets, (where the major Telco's are not so strong). It is interesting that underdeveloped nations are showing strong interest in BPL.

It is possible that the major BPL threat to amateur radio may come from niche markets or in-house BPL applications such as wide area security systems, high rise building broadband distribution, etc, rather than wide scale access BPL.

Finally, the WIA Board would like to thank the many people who have devoted so much time and effort to the BPL issue over the last year. In particular the BPL group consisting of Keith Malcolm VK1ZKM, Barry White VK2AAB, David Wardlaw VK3ADW, Fred Johnston ZL2AMJ and very recently Gilbert Hughes VK1GH. Owen Duffy VK1OD for technical support, development of the FSM software, and his invaluable contribution. Justin Giles-Clark VK7TW and REAST members for emission measurements on the Tasmanian BPL trials, and the many other amateurs supporting the fight against BPL, and especially the efforts of Ed Hare and the ARRL team who are in many ways leading the way internationally.