

Dr. Ralph P. Schorn

– Beauftragter für Telekommunikationsrecht –



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European Commission
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EU Joint PLC Workshop October 16th, 2003

Dear Mr Brefort,

we – AGZ e.V. – are a private society in Germany being registered as a lobby organisation at the national parliament "Bundestag" for promoting amateur radio and for advocating the interests of licenced radio amateurs. We thank you for the option to contribute our comments on the initial working document COCOM03-32 to be discussed during your envisaged joint PLC workshop on October 16th, 2003.

Frankly speaking, the amateur radio community rejects today's PLC technology. The reason is quite simple and clear: PLC kills amateur radio below 30 MHz, in case this broadband access technology is installed within a radius of about 100 to 200 m with respect to the amateur receiving antenna: The COCOM03-32 document on page 8 suggests a maximum interference level of 22.5 dB μ V/m at a distance of 30 m as a working basis. Assuming a widely used antenna type (i.e. the half wave dipole), an absolute interference level of 500 μ V will result at a standard receiver input at this typical distance in urban areas. This value corresponds to the reception level of a very strong amateur radio station – in our terms we speak of "20 dB over S 9". But, due to legal transmitter power limits of 100 to 1000 Watts, more than 95 percent of all amateur radio stations to be received are by far not that strong – and will be superseded by noise. You have to take into account here that amateur radio transmitters use more than 500 times less power than broadcasting stations.

As you can clearly imagine, PLC with a limit of 22.5 dB μ V/m at 30 m distance will definitely put an end to amateur radio communication on short wave. This statement is

not the place to submit lengthy scientific studies on the EMC risks and interference potentials of PLC – you will already know them, e.g. being supplied by IARU, national amateur radio societies and also broadcasting organisations. For completeness, we attach our own technical study from the year 1999 in the German language, being based on the German national limits regulation "NB 30", which is about 25 dB more stringent to PLC systems than COCOM03-32. But even this is a tremendous hazard to amateur radio.

We are aware of the fact that industry strongly demands for higher EMC radiation limits in order to sell today's technical concepts and developments broadly spread on the European market. We are also aware of the fact that the NB 30 values are by far not sufficient to assure this and to give a suitable legal regulatory basis. For technical reasons, there will be no peaceful co-existence of PLC and amateur radio below 30 MHz – and we do not see any solution here when sticking to the presently discussed EMC radiation limits.

Does Europe intend to sacrifice amateur radio on the altar of sheer commerce? Does Europe neglect the non-material benefits that amateur radio offers to society since nearly 80 years? These questions must be put to European politicians and decision makers in all frankness.

Training and education of young people, private scientific and technical studies as well as emergency and disaster relief communications will be impossible in the future, although internationally being enforced by the "Constitution and the Convention of the International Telecommunication Union" (ITU) and in the adjunct "Radio Regulations". The EU member countries have signed this international treaty and have thus agreed to give existence and protection to the amateur radio service. The presently discussed PLC radiation limits will be a clear violation of ITU regulations.

Although PLC on first sight will give access to more information instead of reducing the information bandwidth, we want to stress the point that any internet communication by definition is depending on providers who may – or may not – decide what kind and what amount of information people shall be able to receive, at least in principle. Also the risk of technical failure of complex networks in case of emergency or disasters is a critical issue in this context. In contrast to "provider dependent information", the reception of national and international radio stations and amateur radio stations on long, medium, and short wave is totally independent from any third party infrastructure and from any political influence. Moreover, this "self-sufficient information" is highly immune to the failure of communication networks and even to the breakdown of the electrical power supply grid. PLC will put an end to this.

To end this statement, we draw your attention to environmental issues. Higher PLC interference levels automatically lead to the necessity of higher transmitting powers at the partner amateur radio stations. This, however, is a clear contradiction concerning the political demand coming from environmental groups to lower the radiation levels in general and to further reduce the legal values regulating the exposition of humans to electromagnetic fields. Radio amateurs would be forced – against their will – to ignore environmental needs and to raise their transmitting power, just in order to be able to continue normal operation. We think, this is not acceptable.

To summarise, we strongly urge the European Commission to acknowledge the benefits of amateur radio to society and to protect the amateur radio service by converging suitable EMC radiation levels. Results from scientific studies on the interference potential of Powerline Communication (PLC) show that radiation levels must be restricted to 10 dB $\mu\text{V}/\text{m}$ at a distance of 3 m, corresponding to –23 to –10 dB $\mu\text{V}/\text{m}$ at a distance of 30 m, depending on the physical model and on the extrapolation factor ranging from 20 dB to 33 dB per decade.

Only this measure will in future allow the undisturbed reception of typical signals of amateur radio stations, showing up with signal voltages of well below 50 μV at a standard receiver input. The COCOM03-32 value has to be re-defined at least 40 dB lower – in order to allow a peaceful co-existence of PLC and amateur radio. Otherwise, severe damage to the amateur radio service on short wave will be the unavoidable consequence. Political decision makers in Europe must be aware of this fact.

With kind regards,

Dr. Ralph P. Schorn, DC5JQ
AGZ e.V.

P.S.: You are allowed to publish this statement freely. AGZ e.V. would appreciate if you sent us a copy of the summary paper of all written contributions. Furthermore, we are very much interested in receiving written information on the outcome and on the results of the joint PLC meeting on October 16th, 2003. We prefer electronic documents to *dc5jq@agz-ev.de*. Thank you very much!