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*This paper forwards the official opinion regarding PLC of the **Deutscher Telegrafie Club e.V.** - DTC for short - (German Telegraphy Club), and may be reproduced and made public by the Commission.*

DTC represents the interests of its members who are active in operating within the Amateur Radio Service, e.g. in frequency bands subject to proposed PLC use.

Considering

that most radio spectrum users have already expressed to the Commission and within many of its Working Groups their concern regarding PLC and the detrimental effects a wide spread PLC implementation would have,

further considering

that reasonable papers will have come in and be presented that provide sound proof of incompatibility between PLC spectrum use and radio services

we strongly recommend that any future regulation by the Commission should consider the following:

1. EMC levels for PLC

PLC created EMC problems consist of radiated interferences from the powerlines, the latter acting as antennas. Many proposals have been investigated in the past to seek a "peaceful" coexistence between radio users and PLC, which all turn out to be set for at least some harmful interferences to radio services or even heavy such harmful interferences.

Compliance with set maximum values by certain EU member states - be it NB 30 or else - has not been achieved by would-be-PLC operators in field testings. Despite the fact that actual measurements taken at many of these test sites have either not been made public nor been presented to the Commission, some were, and many more were leaked to interested parties. Experiences gained in these PLC experiments as well as official measurements and papers forwarded by some PLC operating companies to authorities of some EU member states (just to mention Germany in this case) reveal that even compliance with NB 30 maximum levels for radiation is difficult at best and in most cases was not met, e.g. radiation levels were much higher. PLC equipment used had level adjustment ranges allowing a substantial increase above what would be regarded the maximum allowed level, indicating that a compliance was not considered required in many cases. Nevertheless these devices have been marked with CE marks, in disregard of already existing regulations.

PLC is quite different from any other EMC problem for two reasons:

a) PLC devices are intended to generate HF signals on mains wirings (intended purpose of operation), whereas other potential EMC problem generating devices do NOT intend to pass HF into the mains wirings

b) Solving EMC incompatibilities is much easier with devices other than PLC ones, as any measures applicable to solve EMC problems will not impair the intended purpose of those devices other than PLC ones. Applying any such measures to PLC devices would be detrimental for the intended purpose of these devices.

Considering

that EMC levels set for non-PLC devices have been set bearing in mind that any potential conflict may be solved by suitable application of additional means such as filtering etc. without impairing the operation of any such device by this,

further considering

that application of well known means of solving EMC problems generated by PLC devices is impossible if operation is to continue as intended

DTC recommends that the Commission should take the above into account and set maximum allowed radiation levels much lower for PLC devices / PLC networks than those for other devices being subject to EMC regulations by the Commission.

We demand that the level set should by no means invoke a noticeable increase in noise level in radio receivers being set up in their normal operating environment, these levels have been set by ITU recommendations already.

Any deviation from these ITU recommendations would have to be regarded as breach of international obligations, the least one being the ITU one demanding protection of radio services from harmful interferences. The latter obligation not only means to solve cases of harmful interferences to radio services, but to take appropriate regulatory action to prevent potential conflicts before they arise as well.

2. Broad band PLC networks and economic competition

Besides the technical aspects as dealt with above any level set for PLC radiation also contributes to PLC operating costs regarding necessary interference solving costs.

Considering that it has been a well established practice within EMC regulations by the Commission that operators of problem generating devices regarding EMC incompatibilities should bear the cost to solve these problems, there is - to the best of our knowledge - no paper that would cover an estimated guess what such cost would mean for a PLC network operator with reference to a specific maximum radiation (and thus interference) level set.

No such calculation being heard of might suggest, that the public would have to pay any expenses or that any economical calculations pro PLC implementations should be revised and any competition within the broad band network markets in the EU needs reconsideration. It is only fair to assume that any of these broad band technologies should also pay for all pervention costs of their environmental hazards they generate - an established pratice for existing technologies.

Considering this, there is considerable doubts at our side that PLC can compete with less difficult and more promising technologies regarding the broad band market.

We strongly recommend that the Commision should demand the PLC industry to come forward with sound calculations of costs, especially costs for interference solving measures necessary due to the technology used, regarding any wanted maximum radiation level set, which should give the Commission a fair opportunity to find out if PLC is by any means economically feasible. We have serious doubts though, as PLC can be easily shown to be creating EMC problems anyhow, much more intense ones than any other alternative.

3. Else

We finally have to focus the attention of the Commision to the fact that - perhaps due to lack of will of certain national authorities of EU member states - there are already huge numbers of PLC devices flooding the EU consumer market. These devices by no means can comply with EMC radiation levels the Commission is yet about to set or has set.

These PLC devices neither are being produced within the EU nor do they create new or additional jobs within the EU. EU companies would most certainly not be able to compete with any non-EU company of these due to high costs of labour within the EU. So, there is reason to assume that the EU will be a potential market, but the revenues will most probably go to non-EU countries.

Besides the above we, e.g. DTC, join the ranks of opinions being expressed to the Commission regarding PLC and EMC by other contribution made by radio services in full, as these express common interests.

Sincerely,

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