Radiocommunication Study Groups

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North American Broadcasters Association (NABA)

PRELIMINARY DRAFT NEW RECOMMENDATION ITU-R BS.[PLT]

Protection requirements for broadcasting systems operating in the LF, MF, HF and VHF bands below 80 MHz against the impact of power line telecommunication (PLT) Systems

The North American Broadcasters Association (NABA, *www.nabanet.com*) is an association of broadcasters in Canada, Mexico, and the United States, and the NABA Technical Committee is its standing technical body. NABA is thus in a position to present the technical viewpoints of the most authoritative association of professional North American Broadcasters in television and sound programme production, post-production, and distribution for terrestrial, satellite, and cable broadcasting.

NABA is a Sector Member of ITU-R and a long-time participant in ITU-R Study Groups, Working Parties, Task Groups, Rapporteur groups, etc. NABA numbers among its members Chairmen, Vice-Chairmen and members of the above groups. NABA also participates widely in the ITU work on radio, television and multimedia services and has a strong interest in spectrum management studies including spectrum engineering techniques, spectrum management fundamentals, spectrum monitoring, and inter-service sharing, interference and compatibility.

NABA notes the increasing number of devices, including PLT, having radio frequency emissions in the broadcasting frequency bands without a corresponding allocation in the Radio Regulations. The effect of these emissions might seriously jeopardize, as demonstrated also by extensive measurements, the broadcasting service below 80 MHz often resulting in a complete service disruption. This would prejudicially damage, in particular, small private broadcasters operating a single affected transmitter at MF as well as emergency and distress communications addressed on LF, MF, and HF to the nation-wide population.

The effect of these emissions may seriously affect those broadcasters, which have already made huge investments to introduce digital services, carefully planned and agreed to at the international level, to ensure satisfactory reception in the absence of any additional and unforeseen source of interference as it may result from the operation of the above mentioned devices. It should also be noted that at least in some countries, the introduction of digital broadcasting services in the VHF Band and the achievement of given quality targets, has been the consequence of decisions involving not only the broadcasters but also the relevant Administration. As a consequence, adequate protection of such investments made by broadcasters in response to such decisions should be expected at both the national and international level.

Despite the opinion expressed by some parties that such a situation should be controlled at national level only, without involving the ITU, the present trade globalization (e.g. e-commerce, etc.) has led to a situation where the PLT devices might be introduced in a country without any effective control. Therefore, the problem assumes an international connotation directly involving the ITU according to its Constitution.

In this context, NABA takes note of the Working Party 6A Chairman's Report (Document 6A/120) for the October 2008 meeting. The Chairman reports that "very detailed and frank" discussions took place on PLT and that Working Party 6A decided to develop a "PDN Recommendation from scratch." Annex 4 of Document 6A/120 is the result of that development.

It is the goal of NABA to seek a protection criterion that is acceptable to all concerned. To this end, NABA has completed an investigation of the emissions from actual PLT devices. NABA engaged the world-recognized Communications Research Centre (CRC, Canada) to perform the investigation. As the result of its analysis, NABA proposes in the Annex improvements to the text of Annex 4 of Document 6A/120 as well as specific values for the protection requirements to broadcast systems against radiation from PLT systems.

Annex

DRAFT NEW RECOMMENDATION ITU-R BT.[PLT REC]

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Protection requirements for broadcasting systems operating in the LF, MF, HF and VHF bands below 80 MHz against the radiation from PLT systems

(Question ITU-R 32/6)

Scope

This Recommendation defines the protection criteria for broadcasting systems in the LF, MF, HF and VHF bands below 80 MHz from power line telecommunication (PLT) systems radiation.

Summary

This Recommendation provides the protection criteria for broadcasting services from PLT systems which are not part of any radiocommunication service and therefore have no status in the Radio Regulations but nevertheless inject radiation into the radio frequency environment and are capable of causing interference in the bands allocated to the broadcasting service.

The ITU Radiocommunication Assembly,

considering

a) that telecommunication systems are being developed and deployed which utilize electrical infrastructure wiring for signal transmission;

b) that electrical infrastructure wiring is not designed or installed for transmission of signals at radio frequencies, and radiation from the conductors will inevitably occur;

c) that those telecommunication systems radiate and occupy a broad bandwidth that may affect the use of LF, MF, HF and VHF broadcasting bands below 80 MHz;

d) that radiation from such PLT systems may impair or degrade reception of broadcasting services,

recognizing

a) that the terrestrial broadcasting services are operated in the bands assigned by Art. 5 of the RR as a primary service and are often planned on a noise-limited basis;

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b) that broadcasting is the most economical and widespread telecommunication service accessible by the majority of the World's population;

c) that the broadcasting service is considered by the ITU as one of the preferred media to ensure communications in cases of disaster prevention, mitigation and relief as provided in Resolutions 644 (WRC-07), 646 (WRC-03), 647 (WRC-07), 53 (RA-07) and 55 (RA-07), and it is thus particularly important that it should be suitably protected,

noting

a) that Article No. 15.12 of the Radio Regulations states that: "Administrations shall take all practicable and necessary steps to ensure that the operation of electrical apparatus or installations of any kind, including power and telecommunication distribution networks, but excluding equipment

used for industrial, scientific and medical applications, does not cause harmful interference to a radiocommunication service and, in particular, to a radionavigation or any other safety service operating in accordance with the provisions of these Regulations",

recommends

1 that the radiation from PLT systems in the bands below 80 MHz allocated to the broadcasting service should not exceed those levels given in the following Table 1

TABLE 1

Maximum allowable interference field-strength densities at the broadcast receiving system

Broadcast frequency band*	Maximum interference field-strength density (dBµV/m/MHz)			
	City	Residential	Rural	Quiet rural
148.5-283.5 kHz	27.7	23.4	18.1	5.2
525-1 705 kHz	23.5	19.2	13.9	0.5
2 300-2 498 kHz	18.5	14.2	8.9	-5.0
3 200-3 400 kHz	17.4	13.1	7.8	-6.2
3 900-4 000 kHz	16.7	12.4	7.1	-7.0
4 750-4 995 kHz	16.1	11.8	6.5	-7.7
5 005-5 060 kHz	15.9	11.6	6.3	-7.9
5 900-6 200 kHz	15.4	11.1	5.8	-8.5
7 200-7 450 kHz**	14.7	10.4	5.1	-9.3
9 400-9 900 kHz	13.8	9.5	4.2	-10.3
11 600-12 100 kHz	13.1	8.8	3.5	-11.1
13 570-13 870 kHz	12.6	8.3	3.0	-11.6
15 100-15 800 kHz	12.2	7.9	2.6	-12.0
17 480-17 900 kHz	11.7	7.4	2.1	-12.6
18 900-19 200 kHz	11.5	7.2	1.9	-12.9
21 450-21 850 kHz	11.0	6.7	1.4	-13.4
25 670-26 100 kHz	10.4	6.1	0.8	-14.0
47-72 MHz	8.4	4.1	-1.2	-16.3
76-80 MHz	6.8	2.5	-2.8	-18.1

* Broadcast frequency bands do not include regional variations given in Article 5 of the Radio Regulations.

** Frequency band from 29 March 2009

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