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Dr. Robert McCaughern
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Industry Canada
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Subject: Canada Gazette Notice SMSE-005-05 dated July 2005
Consultation Paper of Broadband over Power Line (BPL) Communication Systems

Dear Dr. McCaughern:

Attached is NAV CANADA's response to Canada Gazette Notice SMSE-005-05 dealing with Broadband over Power Lines (BPL). NAV CANADA commends the Department for providing the opportunity to comment on this important subject.

re. Paragraph 6.3 (a) Prohibited Frequency Bands:

NAV CANADA supports Industry Canada in the exclusion of ALL aeronautical frequency bands from BPL (both access and in-house).

Rationale:

In the 1.7-80 MHz band, aeronautical systems use narrow-band amplitude modulation techniques which tends to make these systems vulnerable to noise. Many frequencies in the 1.7 MHz - 80 MHz band are allocated for AERONAUTICAL RADIONAVIGATION, AM(R)S and/or AM(OR)S.

NAV CANADA operates very sensitive Upper Side Band HF receiving equipment used to communicate with aircraft in Oceanic airspace and Domestic and Northern areas of Canada. All HF AM(R)S designated spectrum in Canada as found in ITU Radio Regulation Appendix 27, and all HF AM(OR)S designated spectrum in Canada as found in ITU Radio Regulation Appendix 26 including the Emergency designated channel 5680 MHz must be protected from both Access BPL and In-house BPL. To protect flight safety, BPL technology must never use AM(R)S or AM(OR)S spectrum.

The 74.8-75.2 MHz marker beacon band is part of the Instrument Landing System and must be protected and only used for aeronautical purposes as allocated by the ITU. To protect flight safety, no BPL transmissions should be allowed in this band

Because of noise from BPL transmitters, a guard band for each aeronautical channel or band excluded from BPL will be required.

re. Paragraph 6.3 (b) Geographical Frequency Restrictions and Coordination Requirements

Physical separation protection criteria between power lines carrying BPL service and aeronautical ground receivers will need to be applied. NTIA and ITU studies for HF and VHF aeronautical receiver protection should be considered.

Appendix A lists the current sites where such equipment exists. NAV CANADA will be pleased to review and/or update this list upon request.

Rationale:

Again, because of the high sensitivity of SSB HF receivers used for communication with aircraft in oceanic airspace and the north, and their susceptibility to interference from broad-band noise, it will be necessary to provide some geographical separation between BPL systems and these receiver sites.

NAV CANADA is pleased to provide the comments above which aim to eliminate the potential for harmful interference to NAV CANADA's aeronautical radio services from BPL systems in the interest of protecting flight safety.

Yours truly,

S. A. Vowles
EMC Specialist
Spectrum Management

Appendix A:

Current list of NAV CANADA sites that will require geographical protection from BPL systems

5.681400 MHz 2.80 kHz J3EJN (SSB)

60:42:21N 135:03:23W WHITEHORSE, YT
58:46:15N 094:08:20W CHURCHILL, MB
55:08:49N 105:16:03W LA RONGE, SK (ANS-FSS)
63:46:06N 068:31:52W IQALUIT, NT
62:28:42N 114:28:11W YELLOWKNIFE, NT
53:38:31N 077:43:15W RADISSON, QC(LG-2)
58:06:00N 068:25:00W KUUJJUAQ, QC
58:50:09N 122:34:18W FORT NELSON, BC
62:48:36N 092:05:59W RANKIN INLET, NU
64:17:56N 096:04:40W BAKER LAKE, NT
65:16:27N 126:45:15W NORMAN WELLS, NT
68:18:52N 133:28:47W INUVIK, NT
74:43:17N 095:00:00W RESOLUTE BAY, NT
55:16:47N 077:45:27W KUUJJUARAPIK, QC
60:49:14N 115:46:56W HAY RIVER, NT
48:32:41N 072:17:42W ROBERVAL, QC
50:13:05N 066:14:55W SEPT-ILES, QC
51:23:16N 056:05:27W ST.ANTHONY, (HARE BAY), NF
52:55:37N 066:52:25W WABUSH, NF
61:47:09N 121:15:38W FORT SIMPSON, NT

ITU Radio Regulation Appendix 27 NAT and VNAT Designated Frequencies 2.80 kHz J3EJN (SSB)

48:57:54N 054:33:42W GANDER, NF
48:58:03N 054:36:01W GANDER, NF
63:46:00N 068:32:34W IQALUIT, NU
69:06:47N 105:00:50W CAMBRIDGE BAY, NT
58:46:15N 094:08:20W CHURCHILL, MB