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November 28, 2005

Dr. Robert McCaughern  
Director General Spectrum Engineering Branch  
Industry Canada  
300 Slater Street  
Ottawa, ON K1A 0C8

Dear Dr. McCaughern:

**Re: Canada Gazette Notice SMSE-005-05, Part 1, dated 2005-07-30  
Consultation Paper on Broadband over Power Line (BPL)  
Communication Systems**

1. The Canadian Cable Telecommunications Association (CCTA), representing 78 Canadian cable companies that provide advanced media in the home through a wide range of entertainment, information, internet and telecommunications services, submits the following comments regarding Industry Canada's consultation on BPL Communications Systems.
2. CCTA has also participated in the discussions and drafting of the RABC's response to the BPL consultation and generally agrees with the comments filed by the RABC.

### **Narrowing the Digital Divide**

3. CCTA supports Government in its desire to have a vibrant and competitive telecommunications marketplace where broadband services are available in all regions of Canada. Industry Canada notes in its consultation paper that because of the ubiquitous deployment of power lines and the fact that they reach virtually every home, it believes that BPL access systems fit within the Government of Canada Federal Broadband project agenda. The overall goal of which is to narrow the digital divide between Canadians living in urban, rural and remote communities.
4. While Access BPL systems provide another option for Canadians to receive broadband services, particularly at the local level over medium and low power voltage lines, BPL service providers, like other broadband service providers such as cable carriers, will be similarly challenged in leasing or building affordable interconnection links between the local broadband system in remote and rural areas and the internet point of presence, typically located in urban centres. Until the Government deals with this principle issue, CCTA believes that BPL will only make a minimal impact in expanding broadband service to the under-served regions of Canada.

### **Deployment Issues of Access BPL Systems on Wireline Broadband Services**

5. As stated above, CCTA agrees with the Government's objectives of increasing the availability of broadband services as well as the competitiveness of the marketplace but submits that Government should not only protect current radiocommunications services from harmful interference from Access BPL systems but also existing broadband telecommunications services that use the power utility pole infrastructure. This includes cable and telephone companies' broadband services. As detailed in the consultation paper, Access BPL systems are designed to send information within parts of the 2-80 MHz frequency range along unshielded power lines, which results in

- the unintended emission of RF energy. This unintentional radiation can create interference to a number of radiocommunication services mentioned in Section 4.2 of SMSE-005-05.
6. In the case of cable, the proposed BPL systems that operate in the 2-80 MHz band could have a detrimental effect on the upstream broadband data service of cable companies, which include internet access, telephone services and the return channel associated with interactive set-top boxes. The return channels that support all of these services from a customer's home to the headend are potentially at risk.
  7. While cable is designed to be a closed system, theoretically immune to outside RF interference, in practical terms it is not. Possible areas where RF signals can enter and exit the coaxial system include equipment in the customer's home, cracks in the cable sheath, loose connectors, or older cables. This is the reason Industry Canada regulates cable leakage and requires cable to conduct periodic testing and file periodic reports on Cable Leakage Index (CLI) measurements.
  8. The proximity of the Access BPL system to cable's broadband networks and telephone companies' DSL networks on the power utility poles heightens the need for the same type of monitoring by Access BPL providers to ensure that unintended radiation remains at acceptable levels.
  9. CCTA submits that the unintentional radiation, if not kept within reasonable limits, may cause harmful interference to cable's telephone service, which could impact quality of service and even the availability of 9-1-1 emergency services by customers. This problem would not only impact cable customers but also the customers associated with all the VoIP service providers making use of cable's broadband networks.

10. The cable industry has made significant investments in its broadband networks to ensure a high-degree of availability and reliability for its lifeline telephone service. The industry has concerns that, if left unchecked, the level of interfering radiation emanating from an Access BPL system could have a significant impact on cable operators' services, at a time when they have just entered the local telephone market.

### **Current Status of Access BPL**

11. As Industry Canada suggests in its paper at page 7;

A number of foreign governments including Australia, Austria, Finland, Hong Kong, Hungary, Ireland Italy, Korea, Japan, Netherlands, Poland and Switzerland are currently studying BPL technology or have permitted equipment trials. The outcomes have shown mixed results and have led some administrations to ban BPL systems while other administrations have shown allowed deployments under various conditions. A number of administrations have suspended BPL trials pending international developments.

Furthermore, Industry Canada acknowledges that they continue to assess BPL systems to understand the technology and the interference mechanisms<sup>1</sup>.

12. Cable Television Laboratories (CableLabs), Inc., the Research and Development organization of the North American cable television industry has informed its members of its concerns regarding potential interference from Access BPL systems. CableLabs conducted preliminary testing in Manassas, Virginia, where an Access BPL system has been deployed. While CableLabs concluded that ingress was present on the return feeds, it was not possible to correlate the level to the BPL system. CableLabs remains concerned that, as usage increases, so will the level of interference. If the

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<sup>1</sup> Section 5.1.

background/environmental noise is permitted to rise, then it could cause service impacts to cable's upstream channels.

13. Due to the very early development stage of this technology, the concerns of many Administrations around the world, and the lack of controlled testing that has been possible by CableLabs, CCTA asks that Industry Canada take a very cautious approach to the development of regulations and operational guidelines for the deployment of Access BPL systems in Canada.

### **Equipment Standards, Approval Process and Prospective Technical Requirements**

14. The CCTA agrees with the RABC's recommendations regarding prospective technical requirements for Access BPL systems. CCTA considers that, due to the potential of Access BPL systems to interfere with many existing HF/VHF spectrum users, the Department has an extraordinarily high "duty-of-care" with respect to guarding against harmful interference produced by any Access BPL operations it may authorize. In addition, the CCTA supports the Department in proposing a certification process that requires measurement test reports for BPL equipment that demonstrate compliance with established performance standards.
15. The CCTA therefore recommends that the Department develop a new Interference Causing Equipment Standard (ICES) to deal with Access BPL systems. This ICES, and related radio standards, should aim to protect licensed radiocommunication and telecommunications services from interference generated by Access BPL systems. It should be consistent with similar Canadian standards and procedures, e.g. Broadcast Procedures and Rules-8 (BPR-8), Radio Standard Specifications-210 (RSS-210).

16. Moreover, the CCTA also believes that due to the nascent nature of the technology, it is important that each Access BPL operator be required to ensure that its overall system complies, in all places and at all times, with established unwanted radiation limits through a continuous periodic monitoring and reporting program, similar to (BPR-8) for Cable Television Undertakings, which provides measurement results and descriptions of any corrective action taken throughout the period.

### **Conclusion**

17. The cable industry welcomes new facilities-based participants, including Access BPL to the highly competitive broadband marketplace. At this time, the potential benefits of BPL are not well established and need to be weighed against the risks to existing broadband and other advanced interactive services. Industry Canada should acknowledge that the offering of broadband by electric utilities poses unique challenges. Steps should be taken to protect existing users of electric utility facilities and rights-of-way from harmful interference. Access BPL system providers should be required to periodically monitor their systems. The procedures should be consistent with BPR-8, the cable signal leakage procedures applicable to cable companies.
18. CCTA appreciates the opportunity to file the above-notes comments. We remain available to answer any questions.

Sincerely,



Michael Hennessy