

CANADIAN CABLE TELEVISION ASSOCIATION  
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ASSOCIATION CANADIENNE DE TÉLÉVISION PAR CÂBLE

April 30, 2002

Mr. Michael Helm  
Director General,  
Telecommunications Policy Branch  
Industry Canada,  
300 Slater Street,  
Ottawa, Ontario  
K1A 0C8

**Subject: CCTA Comments Regarding *Canada Gazette Part I* Notice DGTP-001-02 dated 2002-01-19: Consultation on Revisions to the Spectrum Utilization Policies in the 3-30 GHz Frequency Range**

Dear Mr. Helm:

The Canadian Cable Television Association (CCTA) submits the following comments regarding Notice DGTP-001-02 on behalf of its members. The CCTA is the national industry association representing 818 large and small, federally licensed cable systems in Canada. Collectively, CCTA member systems deliver a full suite of entertainment, information, and Internet and telecommunications services to 6 million Canadian households.

The CCTA commends the Department for consulting with industry members on the many important issues regarding the management and use of the spectrum in the 3 to 30 GHz frequency range. The CCTA is restricting its comments to the bands that it relies on or operates within.

The CCTA has structured its comments in two parts. The first part provides general comments on the revision to spectrum utilization policies, while the second part provides detailed comments on the following specific bands: C-band, Ku-band and Ka-band.

## **A General Comments**

The Department states at paragraph 2.0 of its discussion paper:

The need for broadband access and the provision of advanced telecommunications services to business and consumers continue to grow globally. Telecommunications service providers have been considering wireless solutions for the expansion of existing networks as well as for the implementation of new services. There has also been a new focus on local network distribution or the provision of last-mile connections directly to end-users via wireless systems. Wireless technology has continued to advance with more manufacturers taking an interest in developing integrated transmission/switching networks with ATM and Internet Protocol capability.

The market for broadband access in Canada is among the most advanced and most competitive markets in the world. Canada is a world leader with one of the highest penetration levels of broadband access. Key players in this field include the majority of cable companies, all ILECS, AT&T Canada, Sprint Canada, Primus Canada, and GT Group Telecom to name a few of the larger players. The broadcast distribution market is also equally competitive. A number of number Broadcast Distribution Undertakings such as StarChoice, Bell ExpressVu, Look TV and several ILECS compete with cable operators in the provision of broadcast programming as well as high-speed Internet access.

The opening and licensing of considerable amounts of new spectrum over the past few years, in the 2.5, 24, 28 and 38 GHz bands for broadband access and broadcast distribution, has, resulted in an abundant supply of spectrum for wireless access but has not resulted in the successful development of alternative types of broadband access. This failure was due in part to the infant state of the technologies, the significant capital costs associated with system deployments, as well as a general failure of the

marketplace to generate the large numbers of customers required to generate the on-going revenue streams necessary to sustain these operations. As a result many new service providers have gone out of business.

CCTA submits that Government's desire and challenge to increase wireless broadband access penetration is not a spectrum supply shortage or allocation challenge but rather a technology/demand constraint associated with the deployment of spectrum already allocated for wireless access and MCS.

For example Industry Canada licensed the 28 GHz block for Local Multipoint Communications Services (LMCS) to Western International Communications (WIC) and Regional Vision Inc. These licences were subsequently acquired by MaxLink Communications Inc. and were recently revoked by Industry Canada due to a failure to meet its conditions of licence. There was no market or business case for this type of service. In fact, Industry Canada, in recognizing the slow take-up of LMCS in Canada, has postponed the second licensing round for the frequency block at 28 GHz. The 38 and 24 GHz band, which provides a last-mile alternative for business services, is not heavily used. 2.5 GHz MCS licences were awarded in March 2000 to SaskTel and Inukshuk, but we have yet to see any significant deployment of infrastructure.

Further to these above-noted bands, Industry Canada has just completed its auction on Next Generation wireless. It also recently awarded the licence for the 118.7° Fixed Satellite Service orbital slot to Telesat Canada, which has already requested an extension to meet the first milestones associated with the construction of the satellites.

Industry Canada also announced a call for applications for the 107.3° orbital slot to support a new Ka-band spot-beam satellite to provide broadband multi-media services. Two applications were received but these are from wholly U.S.-owned, U.S.-based companies.

The CCTA supports innovation and the advancement of broadband communications. However CCTA is concerned that spectrum that is used or required for fixed broadcast distributions services may be reassigned for wireless access even though there is currently substantial oversupply of spectrum allocated to wireless access.

While the Department is fixated on the licensing of new wireless alternatives to meet demand for broadband services, it seems to be overlooking some basic market facts.

- The penetration of broadcast and broadband services in Canada is already one of the highest in the world. The market in Canada is already well served;
- The Canadian broadcast and broadband markets are already highly competitive;
- Canadian companies, as evidenced by the recent failures of MaxLink, AlphaStar, Norigen and Stream and the restructuring of LookTV, are unable to make a business case using new wireless technologies;
- A vast amount of spectrum has already been allocated for use for MDS, MCS, LMCS, Fixed Wireless Access and Next Generation Wireless.

Before Industry Canada decides to allocate new spectrum, or re-farm, or re-designate spectrum for other uses, it should make a stronger attempt to foster greater use of the spectrum that has already been identified but remains vacant.

The Department must consider the following factors in determining the need to change existing utilization policies:

1. Current use and demand for the existing spectrum;
2. Future demand for the spectrum;
3. Market realities.

Further, in view of similar deliberations currently taking place in the U.S. on the development of policies for the allocations/designations of spectrum for use by specific services in the 3 to 30 GHz frequency range, the CCTA recommends that the spectrum

utilization policies in the frequency bands under discussion need to be harmonized with those of the FCC. Particularly in the cases where service needs are the same, where service coverage extends to both Canada and the US, and where for reasons of equipment cost advantages can be realized through economies of scale.

## **B Detailed Comments**

### **1. Conventional C-bands 3700-4200 MHz and 5925-6425 MHz**

*The Department seeks comments on the following issues, potential directions and public interest:*

- (i) *Whether to migrate the conventional C band from co-primary FS and FSS to a primary designation for fixed-satellite service (discussion in section 3.1);*
- (ii) *Whether to consider segregation between fixed and fixed-satellite services in either mutually exclusive geographic areas, or for mutually exclusive portions of the frequency bands (discussed in section 3.1):*

Cable television operators rely on the delivery of programming services that are distributed on a national basis to cable headends via C-band FSS satellites. CCTA supports the RABC Board position on this particular matter. Specifically:

The Board is of the view that the Department's policy of protecting the 4 GHz and 6 GHz radio bands for use by long-haul heavy-route microwave systems has served the country well in the development of the backbone of the telecommunications networks. This policy has required that the Fixed Satellite Service 6/4 GHz earth stations be located away from the long-haul microwave routes and urban areas. However, with the revision of licensing procedure for earth stations (RSP-114) involving the use of frequency coordination with terrestrial microwave stations on partial-band and partial-arc basis, it has now become feasible to establish 6/4 GHz earth stations (Teleports) in metropolitan areas. Furthermore, in view of the greatly diminished requirements for 6/4 GHz heavy-route long-haul

microwave facilities with the advent of intercity fibre optic systems, it is believed that the Department's policy of protecting such long-haul heavy-route microwave systems is no longer needed. Therefore, it is recommended that the Department's current policy restricting the location of 6/4 GHz earth stations should be changed so as to provide full flexibility for the deployment of Fixed Satellite Service earth stations in the conventional C bands in Canada on a coordinated first-come, first-served basis with the Fixed Service. The Board does not support geographical or frequency segregation between the FS and FSS. Satellites in operation cannot be retuned, and the satellite antenna patterns cannot be reshaped. Geographical or frequency segregation would render useless large portions of the very costly satellite payload. Moreover, such segregation would continue to impose co-ordination burdens on both the FSS and FS operators.

## **2. Allotment C-bands 4500-4800 MHz and 6725-7075 MHz**

*The Department seeks comments on the following issues, potential directions and the public interest:*

- i) *To provide full flexibility for the deployment of fixed-satellite service earth stations in the allotment C-bands in Canada on a coordinated first-come, first-served basis with the fixed service in order to stimulate the development of the available orbital positions and advance competition in satellite offerings, or to retain the application of domestic footnote C16A for FSS in the bands.*

CCTA members make use of TV pick-up in the upper 6 GHz band for their Community Channel operations. CCTA supports the position of the Fixed Services view in the RABC submission regarding the retention of the current provisions in the footnote C16A for FSS use in the allotment C-bands.

### **3. Ku-band 12.75-13.25 GHz**

*The Department solicits comments on:*

- i) *the types of point-to-multipoint fixed system deployments which will continue to use the spectrum in the band 12.7-13.25 GHz; and,*
- ii) *the kind of new point-to-multipoint applications which are envisaged for this band, for example, could this spectrum provide broadband wireless access or wireless cable distribution to the home.*

While fibre optic deployments are replacing some Very High Capacity Microwave (VHCM) facilities operating in the band 12.7-13.2 GHz, the majority of existing VHCM systems will continue to exist. VHCM is used to interconnect cable systems, both from large systems to distant systems and within and between regional systems. It is the most economical and often the most practical way of delivering signals to small remote cable systems and within and between regional systems, as well. A large percentage of these links typically originate from a larger cable system and terminate at smaller remote systems. These links often carry the entire cable programming line-up of the originating system.

Cable system capacities vary from 330 MHz for the very small up to 860 MHz for the very large. Analogue transmission is used for the distribution of signals up to 500-550 MHz and digital technology is employed for signals above 500-550 MHz. Most of the existing VHCM deployments will continue to employ analogue transmission technology Vestigial Side Band – Amplitude Modulation (VSB-AM) over the 12.7-13.2 GHz band, as the programming that is carried within that 500 MHz band is analogue.

The Canadian Radio-television and Telecommunications Commission (CRTC) recently licensed over 300 new programming services for distribution in digital. While only 50 of these new services have been added to cable companies' line-ups to date, a significant number will continue to be added and these will appear at frequencies above 550 MHz.

As such, cable companies will exhaust the capacity available at 12.7-13.2 GHz and will be seeking additional bandwidth to deliver signals to VHCM-interconnected systems.

In some limited cases, cable companies were not using the entire 500 MHz of VHCM capacity and, therefore, are now using some of the 6 MHz channels to carry digitally multiplexed programs. Between 8-12 programming services are multiplexed together and modulated using either 64 or 256 QAM technology onto a 6 MHz channel.

While some wireless broadband terrestrial schemes are being used in this band in other countries, such as Mexico, Canadian cable operators have no plans to use the spectrum for anything but point-to-multipoint VHCM to feed signals from one system to another or within large regional systems. In Canada, a very significant number of cable operators have already upgraded their cable plant to accommodate two-way broadband transmission to provide high-speed Internet access service as well as Impulse Pay-Per-View (IPPV). Cable operators do not need to rely on broadband wireless solutions, as their local access networks are sufficiently advanced and already support a variety of broadband services.

As discussed in Section A, Industry Canada should reconsider changes to the spectrum usage policies of this band that would permit the new point-to-multipoint applicants to provide broadband wireless access or wireless cable distribution to the home. Industry Canada already licensed the 28 GHz band for the purpose of providing an alternate wireless cable service. The three companies that were awarded the licences never got off the ground, and Industry Canada has since revoked the licences of the remaining single company that had previously acquired the other two. Moreover, Industry Canada has postponed the second round of licensing for the other 28 GHz spectrum block. Approximately 2 GHz of spectrum remains unused that has been designated for LMCS or wireless cable services. CCTA submits that the supply of spectrum for wireless access exceeds demand and it would be inefficient to displace users in the VHCM band particularly while such over supply continues to exist.

The primary purpose of the VHCM band will and should continue to be for the trunking of programming services to remote cable systems and within and between regional systems. The VHCM band is critical to the continued operation of many cable systems. Their existence would be threatened if the spectrum was no longer available to them for this particular purpose. In fact, while the overall number of systems that rely on VHCM is dropping due fibre optic links, those companies that do rely on VHCM will require additional spectrum to enable them to accommodate the services that are above 500 MHz on a cable system.

The frequency band 18.14-18.58 GHz was designated as a Fixed Service band to be used as a spill-over band for VHCM, in addition to Local MCS, TV Pick-up, as well as TV STL. While this band has not been used extensively to date that will likely change, with the licensing of the new digital programming services.

#### **4. Ka-band 18.14-18.58 GHz**

*The Department suggests that:*

*It is proposed that emphasis be placed on a designation for FS in this band. Sharing with low density FSS use (such as gateways) on a coordinated basis is deemed feasible. The use of spectrum for fixed-satellite services in the band 17.8-18.58 GHz will continue to be limited to large antenna earth stations located in areas outside of urban centres in accordance with Canadian footnote C16A. This allows continuation of FS implementation within two of the current four FS band plans in the 17.7-19.7 GHz range. The major portion of the current pairing of 17.7-18.14 and 19.26-19.7 GHz and the MCS band at 18.14-18.58 would remain intact. It should be noted that 17.7-17.8 GHz is paired with 19.26-19.36 GHz resulting in minimal impact of BSS and NGSO-FSS. A possible structure for services would be to pair 17.8-18.2 with 19.3-19.7 leaving 18.2-18.58 open for MCS applications.*

The CCTA urges Industry Canada to protect the Fixed Service band and particularly the 18.14-18.58 GHz MCS/VHCM/TV-pick/TV STL band. As specified in Section B.3 above, the 12.7-13.2 GHz VHCM band available to cable operators is limited to 500 MHz of spectrum. Cable operators' networks are expanding up to 860 MHz in some cases and,

therefore, the current capacity of the existing VHCM band will be insufficient to support the spectrum requirements of those operators. Those operators will require additional spectrum to enable them to trunk signals within their regional systems and to smaller, remote systems. The spectrum band between 18.14-18.58 GHz can provide that relief and should be left intact for that purpose.

Industry Canada has suggested that the cable television industry currently makes little or no use of this band today. We submit that cable systems, only very recently, have been rebuilt to 750-860 MHz capacity. Utilization of the 18.14 GHz band up until now provides no indication of its level of use by the cable industry in the future.

The 18.14-18.58 GHz band is designated as a CARS band in the U.S. For purposes of coordination, as well as equipment procurement, we submit that the band should be exclusively used for the applications that have already been defined in Standard Radio System Plan SRSP 318.14 that was drafted and submitted to the Department, but never issued. We submit that it is difficult for cable operators to recognize that the band is open, if Industry Canada does not publish the SRSP. If Industry Canada wants to see this band used, the SRSP should be immediately released and posted to its Website to facilitate applications for use of the band.

**C Conclusion**

CCTA would be pleased to provide further views or participate in a subsequent process to review specific proposed changes to spectrum utilization policies in the bands discussed herein.

Sincerely,

A handwritten signature in black ink, appearing to read "Janet Yale". The signature is written in a cursive style with a large loop at the end.

Janet Yale

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