

September 11, 1998

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

**Re: Canada Gazette - Industry Canada Notice SMBR-002-98:
DTV (Digital Television) Transition Allotment Plan**

Dear Mr. McCaughern:

The Canadian Broadcasting Corporation (CBC) is pleased to have the opportunity afforded by this Gazette Notice to submit its views on this important subject for the future of television broadcasting in Canada.

The CBC would like to congratulate Industry Canada for the excellent work accomplished by its staff in the development of this first Allotment Plan for terrestrial Digital Television Broadcasting (DTV) in such a short time frame. This Transition Plan represents a first illustration of possible terrestrial DTV coverage and channel arrangements in Canada. It has enabled the television broadcasting industry and the CBC to evaluate the implications of the several principles and technical criteria used to develop this plan.

The CBC has performed an initial analysis of the DTV Transition Allotment Plan presented in SMBR-002-98, and would like to submit the attached comments to Industry Canada.

The CBC would be pleased to work with Industry Canada to address the issues associated with the attached comments.

The CBC would like to express its appreciation to Industry Canada for its efforts in assisting the broadcasting industry in developing this new service for the benefit of all Canadians.

Yours sincerely,

CBC signature: to be decided by Head Office

Canadian Broadcasting Corporation
P. O. Box 3220, Station C
Ottawa, ON K1Y 1E4

Att.

Industry Canada Notice SMBR-002-98
DTV (Digital Television) Transition Allotment Plan

Comments Submitted by the Canadian Broadcasting Corporation (CBC)

September 11, 1998

General Comments

As Industry Canada is aware, the CBC has been participating in various activities and committees dealing with the planning and introduction of DTV. These include activities of the Canadian Joint Technical Committee on Advanced Broadcasting (JTCAB), Advanced Broadcast Systems of Canada (ABSOC), the U.S. Advanced Television Systems Committee (ATSC) and, more recently, the Canadian Task Force on the Implementation of Digital Television. In particular, the CBC was an active member of the JTCAB Ad-hoc Group on DTV Planning Parameters.

The CBC supports the basic principles on which the plan is based, which are outlined in the preamble to the Plan.

In general, the CBC is satisfied that the Plan presented is in accordance with the allotment planning and principles recommended in the report of the Task Force on the Implementation of Digital Television, which the CBC supports.

The CBC strongly supports Industry Canada's decision to provide a new full 6 MHz DTV channel for each analog NTSC service in operation, including unprotected low-power stations, as well as for each analog NTSC allotment. For the CBC, the provision of DTV channels for all low-power stations is particularly important, as these stations are used extensively in remote areas, to meet a coverage requirement of the CBC mandate.

Transition Phase

The CBC understands that a transition phase is necessary for an orderly introduction of terrestrial DTV in Canada, during which there will be some simulcasting of programmes. During this phase, it is important that NTSC growth and extension be possible and permitted. This is why the preservation of NTSC allotments in the transition plan is important. This is particularly important for the CBC in the eventuality that desaffiliation of some of its affiliated television stations may occur.

The CBC notes that, even with the utilization of all the VHF and UHF spectrum currently allocated to terrestrial television broadcasting, it was not possible to fully accommodate the Canadian requirements for the DTV transition phase. For instance, some NTSC allotments do not have a DTV channel, some NTSC allotments were not preserved and, finally, all DTV undertakings will need to operate with a reduced service availability by means of reduced ERP to reduce the interference between NTSC and DTV.

For these reasons, the CBC urges Industry Canada not to reduce the amount of spectrum available for terrestrial TV during the transition phase.

Technical Criteria and Assumptions

As indicated in the preamble to the Plan and in more detail in the JTCAB report entitled "Digital Television Service Considerations and Allotment Principles" used by Industry Canada to develop the Plan, the service criteria, planning parameters, allotment principles and technical criteria were based on a number of assumptions that had to be made in view of the several uncertainties associated with the DTV system approach taken. It is essential that these assumptions be verified before any new spectrum and/or regulatory decisions are taken for DTV.

The CBC would like to make the following observations:

- There has never been any DTV field trials in Canada using the ATSC A/53 system — no Canadian experimental data is available;
- There have been very limited DTV field trials in the U.S. and the results are far from conclusive from an engineering perspective;
- The DTV Transition Allotment Plan is based on the use of the ATSC A/53 system, and provides only one channel per DTV coverage area for each station. Coverage predictions, partial results of UHF DTV field trials conducted in the U.S. as well as experience with another digital broadcasting system operating in the UHF range (i.e. Digital Radio Broadcasting (DRB)), indicate that it may require more than one VHF or UHF transmitter to cover adequately an area with a radius greater than approximately 50 km. Since the A/53 system does not cope well with co-channel re-transmitters, this means that any required additional re-transmitters for gap-filling or coverage extension within the service area may have to be on alternative channels. In order to do this additional channels will be required;
- Parameters such as the appropriate limits on DTV effective radiated power (ERP) and effective antenna heights (EHAAT), suitable service availability for DTV service, required usable field strength based on real consumer receiving equipment, RF spectrum mask, and protection ratios need more study.

Additional technical information is therefore required to verify the validity of the planning and technical criteria used by Industry Canada in the DTV Transition Allotment Plan, as well as the several underlying assumptions. This information can be obtained through U.S. field trials or early DTV implementations, as well as through Canadian DTV transmission field trials.

For these reasons, it is essential that Industry Canada allow for some significant flexibility and experimentation in the implementation of DTV during the transition phase. The CBC believes that the Plan must be kept as flexible as possible so that required adjustments can be made as more is learned about DTV coverage questions. In addition, as indicated earlier, it would be unwise to take any decisions to reduce the amount of spectrum available to DTV until the above assumptions and technical criteria are verified, confirmed or corrected.

The CBC strongly supports the need to gather the above technical information and the need for these trials. To this effect, the CBC is a member of the Canadian Consortium DTV Inc (CDTV Inc.). The CBC supports the efforts of CDTV Inc. in this area, and would encourage Industry Canada to also provide support.

Future Final Plan and Core Spectrum

The CBC strongly agrees with the decision of Industry Canada to delay the consideration of a "core spectrum" for the "Final DTV Allotment Plan" as well as the determination of the criteria for this Final Plan, to after field trials and operational experience from early Canadian DTV implementation has occurred.

The CBC has two important concerns related to the future Final Plan:

- the possibility that DTV stations operating with a transition DTV channel either inside or outside the "core spectrum" will have to change channel in accordance with the Final Plan;
- the possible reduction of spectrum allocated DTV following the establishment of a "core spectrum," as this spectrum may be required to correct DTV coverage deficiencies.

The CBC urges Industry Canada to take all possible measures to minimize the above possibilities and/or their negative impacts on broadcasters.

For instance, the CBC notes that it has been allocated a DTV transition channel above 60 in major centres such as Montreal, Toronto, Ottawa, Québec, Kitchener, Windsor, Halifax and Moncton. In Montreal, both our French and English TV services DTV channels are above 60. Although the CBC understands the technical reasons that led to this situation, it is nonetheless concerned about the impact of these DTV allotments on its implementation and its future DTV coverage.

Implementation Issues and Flexibility of the Plan

As indicated earlier, it is essential that Industry Canada allow for some significant flexibility and experimentation in the implementation of DTV during the transition phase.

The Transition Plan identifies a specific DTV channel for every existing NTSC station and allotment in each market. Each DTV channel is paired to an NTSC channel. This approach was necessary in order to ensure that each NTSC station and allotment has actually been provided with a DTV allotment that is capable of duplicating the same coverage area as the corresponding NTSC station or allotment.

The CBC believes, however, that Industry Canada and the CRTC should be flexible with respect to which station actually occupies any specific DTV channel in a given area. Broadcasters should be allowed to recommend allotment changes and apply on alternative channels in cases where implementation constraints, whether they are technical, equipment or business related, require it. Stations should be free to make adjustments to the allotments in order to facilitate DTV implementation and/or minimize their costs, so long as this does not place another station at an undue disadvantage.

The CBC understands that the Transition Plan is an allotment and not an assignment plan, and will consider it in this manner.

In conclusion, the CBC would be pleased to work with Industry Canada to address the issues associated with the attached comments.