

Digital Radio Broadcasting (DRB)

EVALUATION of GTA PROPOSALS from IMAGINEERING LTD.

4 JUNE 2001 DBCP

In the Toronto GTA area, the 1998 DRB Plan has allocated 7 Groups of DRB stations. As each Group accommodates 5 DRB stations, the GTA has been allocated 35 stations. As there is provision for each of the existing 30 AM/FM stations, the 1998 DRB Plan has room for 5 brand-new stations in the GTA.

In the Imagineering report, 3 new Toronto GTA Groups were proposed, over-and-above the 1998 DRB Plan. Each Imagineering Proposal is evaluated below.

EXECUTIVE SUMMARY

Imagineering Proposal #1	Unacceptable as proposed (refer to para. #1 below)
Imagineering Proposal #2	Unacceptable as proposed (refer to para. #2 below)
Imagineering Proposal #3	Acceptable, if the 31 sq-km interference area in Scarborough is tolerable by client. (refer to para. #3 below)
ALTERNATIVE: By redesigning the default parameters of the proposed DRB Groups (ie. the transmitter, location and antenna), it may be possible to specify a smaller GTA contour, which would cover a reduced portion of the GTA (for instance, coverage for the east-end only).	

DETAILED EVALUATION

1) IMAGINEERING PROPOSAL #1

Proposal: Insert a new GTA DSA on CH=16.

The GTA FRC overlaps the DSAs of ON084 (Penetanguishene) and ON107 (Tillsonberg) by 0.8% and 2.4% respectively. This is likely a tolerable interference, as it occurs on the outer fringe of the two DSAs.

However, Imagineering did not consider the interference into the GTA DSA once ON107 and ON084 came on the air. The interference from ON084 would affect the towns of Vaughn and Woodbridge. On a percentage basis, approximately 33.3% of the GTA DSA would be overlapped by ON107 Tillsonberg. As part of the GTA DSA is over Lake Ontario, an analysis was done of the land-area only. The land-portion of the GTA DSA is 3107 sq-km, while the land-portion that is overlapped by ON107 is 493 sq-km. Therefore the percentage interference over the land-portion only, is 15.8%.

Conclusion: Unacceptable as proposed

2) IMAGINEERING PROPOSAL #2

Proposal: Insert a new GTA DSA on CH=14.

The GTA FRC overlaps the DSAs of ON086 (Lindsay) and ON303 (Orangeville) by about 15% and 35% respectively.

However, Imagineering did not consider the interference into the GTA DSA once ON086 and ON303 come on the air. On a percentage basis, approximately 10% of the GTA DSA would be overlapped by ON303. It gets worse.....once ON086 comes on the air, more than 50% of the GTA DSA would be overlapped.

Conclusion: Unacceptable as proposed.

3) IMAGINEERING PROPOSAL #3

Proposal:

- a) Move ON085 (Peterborough) from CH=11 to CH=17
- b) Move ON158 (St.Catherines) from CH=1 to CH=11
- c) Insert a new GTA DSA on CH=1

The first step is to determine if ON085 (Peterborough) could be moved from CH=11 to CH=17. On visual inspection, the answer is "yes".

The next step is to determine if ON158 (St.Catherines) could be moved from CH=1 to CH=11. (Note that ON085 would no longer be CH=11, as it had earlier been moved to CH=17). On visual inspection, the answer is "yes"

The crux of suggestion #3 is: Can the new GTA Group exist as CH=1 ?

On analysis, the FRC of the new GTA does not cause any interference into any adjacent DSA. However the new DSA does receive interference from ON078 in Mount Forest. The amount of interference received is only 1.1%. Normally, this is considered marginally acceptable, except, in this case, the interference area is 31 sq-km and falls right in the middle of the GTA, specifically the southern portion of Scarborough. (The size of the entire new GTA DSA is 6456 sq-km.)

Conclusion: Acceptable, if the broadcaster agrees to accept interference to the southern part of Scarborough.

DRB PLAN as Published on Strategis

1) The official gazetted 1998 DRB Plan is found on Strategis (www.startegis.gc.ca).

2) Public files available on Strategis:

- 1) DRBLISTP.ZIP Allotment plan for digital radio broadcasting (DRB) in DBF format - November 1998
- 2) ANNEX1.ZIP Annex 1 to the allotment plan for digital radio broadcasting in DBF format - November 1998
- 3) PDF Adobe file of DRB PLAN ISSUE 2 NOV. 1998 (read-only)
- 4) DRBPLAN_98_E.ZIP This is the zipped Plan document in WordPerfect format.
- 5) DSA_FRC_98.ZIP Digital Service Areas (DSA) & Frequency Reuse Contours (FRC) for all DRB Channel Groups in Canada - November 1998
- 6) OFFSET_MIDMIF.ZIP Offsets Files of DRB FRC Contours (MAPINFO Format) Parameters included are: XY offsets, View Scale, Long/Lat of screen centre - November 1998

3) When the file DSA_FRC_98.ZIP is unzipped, the following file can be imported into MapInfo

DRBLIST.TAB DSA and FRC contours for all Groups
(Also includes excess interference percentage: IRBA, ICBC.)

4) SFN_LIST

To generate the DRB Plan, a working file, SFN_LIST.TAB, is used by the Industry Canada DRBPLAN planning software. This file is an internal working file only, and is thus not published. A sub-set of this file, containing the same DSA & FRC contours and the allotted Channel numbers, is published on Strategis, and is called DRB_FRC_98.ZIP.

The file SFN_LIST.TAB is sorted in priority order as to the importance and location of the Groups. The highest priority Groups are those containing existing AM/FM stations, which are within a major metropolitan area, ie. Toronto, Montreal, Vancouver. These Groups are allotted a channel first; then the Groups adjacent to major cities, then the balance of the Groups. The lowest priority Groups are those which contain only allotments.

The Allotment Plan thus grows outward from the major cities. Groups containing AM/FM stations are given a higher priority than Groups containing only allotments.