Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

Broadcasting Decision CRTC 2018-273

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Reference: Part 1 application posted on 10 January 2018

Ottawa, 3 August 2018

Bell Media Inc. and 8384819 Canada Inc., partners in a general partnership carrying on business as Bell Media Canada Radio 2013 Partnership
Kitchener, Ontario

Public record for this application: 2018-0004-5

CKKW-FM Kitchener – Technical changes

*The Commission **denies** an application to change the authorized contours of the English-language radio station CKKW-FM Kitchener, Ontario.*

Application

1. Bell Media Inc. and 8384819 Canada Inc., partners in a general partnership carrying on business as Bell Media Canada Radio 2013 Partnership (Bell Media), filed an application to change the authorized contours of the English-language radio station CKKW-FM Kitchener, Ontario, by increasing the average effective radiated power (ERP) from 1,700 to 11,800 watts (maximum ERP from 4,300 to 37,500 watts) and the effective height of the antenna above average terrain from 110.8 to 111.6 metres. All other technical parameters would remain unchanged.

2. Bell Media submitted that its application was based on a technical need. Specifically, it indicated that due to thermal ducting[1] CKKW-FM is experiencing significant signal interference from both the HD Radio and analogue radio signals of WDCX-FM Buffalo, a U.S. border radio station that operates on the same frequency.

Interventions and applicant's reply

3. The Commission received supporting interventions, as well as comments by Rogers Media Inc. (Rogers) and an individual.

4. Rogers took no position with respect to the merits of the application. However, it noted that signal interference issues due to thermal ducting raised in the Bell Media application are not unique and that its station CKIS-FM Toronto experiences signal interference from U.S. border radio stations. Additionally, although Rogers did not agree that increasing analogue power would provide relief from HD Radio signal interference, it did agree that

[1] Thermal ducting refers to atmospheric conditions that cause variations in the propagation of signals through layers of warm and cold air over a large body of water. These layers can trap radio signals and conduct them over long distances, causing high signal levels at distances beyond the normal range of reception.

additional interference could be caused by thermal ducting. In this regard, Rogers suggested that given the lack of a predicable or baseline method to determine the impact of thermal ducting, the current guidelines of the Department of Industry (the Department) should continue to be used to assess the impact of co-channel interference from U.S. stations. Further, Rogers submitted that if the Commission approves the current application, other stations which experience the impact of thermal ducting interference from U.S. stations should be authorized to increase their signal strength without delay on the same basis and in an expedited manner. Such an approach would be in the best interest of listeners who rely on local radio services and would be extremely important for the stations' financial health and viability.

5. In reply, Bell Media submitted that the sole purpose of Rogers' intervention was to argue that the Commission must approve similar applications on an expedited manner. Bell Media noted that the Commission treats every application for technical changes on its own merit and that Rogers was therefore permitted to make its own case for its own particular circumstances.

6. Bell Media also indicated that an increase in analogue power would allow it to increase CKKW-FM's future HD Radio signal strength, reducing the effects of HD interference from WDCX-FM. The applicant further noted that establishing baseline technical guidelines was not necessary for the Commission to grant an approval in this case. Finally, Bell Media submitted that the Commission acknowledged the problem of thermal ducting in *CIKZ-FM Kitchener-Waterloo – Technical Change*, Broadcasting Decision CRTC 2005-168, 20 April 2005. Bell noted that it had provided a technical reference quantifying the range of increase in signal strength due to thermal ducting in its application.

Commission's analysis and decision

7. When a licensee of a radio station files an application for a technical change, the Commission expects the licensee to present compelling technical or economic evidence justifying the technical change. In this case, Bell Media submitted that its application was based on a technical need.

8. Specifically, the applicant claimed two types of interference from WDCX-FM, namely its HD Radio signal and analogue radio signal.

9. With respect to HD Radio interference, Bell Media stated that the HD operation of WDCX-FM Buffalo is causing interference within its service area. In support of its claim, it submitted a complaint from a listener receiving WDCX-FM's HD signal. Given WDCX-FM's proximity and the fact that CKKW-FM was not offering HD Radio service at the time when Bell Media submitted its application, it is possible that a listener's HD Radio receiver might be able to pick up HD Radio signals from WDCX-FM in CKKW-FM's service area. However, an increase in the power of CKKW-FM's analogue signal would not likely provide any relief from HD Radio interference. Further, the Commission notes that it was advised by CKKW-FM of its experimentation with HD Radio service on 31 October 2017, but that the station has yet to broadcast its HD signal.

Once operational, CKKW-FM's HD Radio signal should overcome the interference from WDCX-FM's HD Radio signal within its service area.

10. With respect to analogue interference, the applicant indicated that there are many areas within its licensed area where listeners receive WDCX-FM's signal rather than CKKW-FM's signal due to thermal ducting. In support of its claim, it submitted three complaints from listeners and two audio recordings describing the reception issues and a signal deficiency report to show increased interference due to thermal ducting. After examining the listener complaints and audio recordings, the Commission has determined that most of the reception issues took place outside or at the edge of CKKW-FM's secondary contour service area and consequently beyond the area the station is licensed to serve.

11. Further, while recognizing the problem of thermal ducting, the Commission notes that the Department has yet to establish a propagation model for predicting increased interference due to this phenomenon. Additionally, the submitted signal deficiency report uses the results of a previous study on the effects of thermal ducting over the English Channel located in Western Europe between the Celtic and North Seas to predict the increase in interference over Lake Erie between Buffalo and Kitchener. However, since there are many differences between the two scenarios, including weather conditions, the size of the bodies of water and their nature (salt water versus fresh water), the resulting increased interference may be significantly different from the levels provided by the applicant.

12. In light of all of the above, the Commission considers that the applicant has not demonstrated a compelling technical need for the technical change. Accordingly, the Commission **denies** the application by Bell Media Inc. and 8384819 Canada Inc., partners in a general partnership carrying on business as Bell Media Canada Radio 2013 Partnership, to change the authorized contours of the English-language radio programming undertaking CKKW-FM Kitchener, Ontario.

Secretary General