

## EXHIBIT 21

### Allocation Study for Substitution of Channel 277C2 for Channel 277C3 at Waterbury, Vermont

#### Introduction

For this application it has been assumed that the contingent application that is being filed simultaneously under the provisions of Section 73.3517 of the Commission's Rules by Lisbon Communications, Inc., to change the location of the transmitter site of station WRJT(FM), Royalton, Vermont, will be approved by the Commission. WRJT(FM) is presently licensed to operate on Channel 276A with 1.35 kW effective radiated power, employing a directional antenna.

This application requests an upgrade of the FM channel allotted to the community of Waterbury, Vermont, from Channel 277C3 to Channel 277C2, under the "one-step" procedure set forth in Section 73.203(b) of the Commission's Rules. No other changes are required in the FM Table of Allotments to accomplish the requested channel upgrade. This Exhibit is provided for the purpose of demonstrating there is a suitable allotment reference site for the requested upgraded FM channel allotment which conforms with the requirements of the Commission's Rules with respect to city-grade coverage of Waterbury, minimum distance separations to U.S. stations and allotments, and protection of Canadian stations and allotments.

The geographical coordinates of the reference point for the allocation studies for the allotment of Channel 277C2 at Waterbury are as follows:

North latitude - 44° 36' 23"  
West longitude - 72° 51' 20".

In the remainder of this Exhibit this reference point is referred to as the Waterbury Class C2 allotment site.

#### Service to Principal Community

The reference point for the community of Waterbury, Vermont, is located 30.9 kilometers at a bearing of 165.3 degrees True from the Waterbury Class C2 allotment site specified in this Exhibit. The distance from the allotment site to the farthest point on the boundary of the community of Waterbury, shown in the 2000 U.S. Census of Population, is 31.6 kilometers. Assuming operation at the allotment site with maximum Class C2 facilities of 50 kW effective radiated power and antenna height of 150 meters above average terrain, the 70 dBu contour would extend to a distance of 32.6 kilometers and would encompass the entire community of Waterbury. The radiation limitations toward Canada described in this Exhibit would have no effect on service to Waterbury.

## EXHIBIT 21 (continued)

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#### Allocation Study for United States Stations

For the allocation study for stations in the United States, the pertinent reference points were selected in accordance with the requirements of Section 73.208(a) of the Commission's Rules, and the distances between reference points were determined in accordance with the requirements of Section 73.208(b) of the Rules, using the method of computation described in Section 72.208(c) of the Rules. All distances were rounded to the nearest kilometer, as specified in Section 73.208(c)(8) of the Rules.

The study showed that the distance from the Waterbury reference point to each existing station, construction permit, pending application, channel allotment and rulemaking petition within 300 kilometers of this point for Channel 277 and the pertinent adjacent channel frequencies, and within 50 kilometers of this point for the frequencies removed by 53 and 54 channels from Channel 277, would conform with the minimum distance separation requirements of the Commission's Rules.

#### Allocation Study for Canadian Stations

An allocation study made with respect to Canadian stations and allotments shows that the Waterbury Class C2 allotment site is short-spaced to two stations and three allotments in Canada under the distance separation requirements for a Class B station as set forth in Paragraph 2.4 of the "Working Arrangement for the Allotment and Assignment of FM Broadcasting Channels Under the Agreement Between the Government of Canada and the Government of the United States of America Relating to the FM Broadcasting Service," dated February 1991 (as amended in 1997). This Exhibit shows that notwithstanding these short-spacings, the proposed Waterbury allotment conforms with the provisions of the "Canada-U.S. FM Agreement."

On Channel 277, the Waterbury Class C2 allotment site is short-spaced to an allotment for Channel 277A at Longueuil, Quebec. The Longueuil allotment is limited to the equivalent of 0.25 kW effective radiated power at an antenna height of 100 meters above average terrain. The spacing between the Waterbury Class C2 allotment site and the Longueuil allotment is 114 kilometers.

EXHIBIT 21 (continued)

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The present operation of WLKC(FM), Waterbury, Vermont, results in significant overlap of the WLKC(FM) 34 dBu F(50,10) contour with the projected 54 dBu F(50,50) contour for the Longueuil allotment. This Exhibit requests that the proposed Waterbury Class C2 allotment be considered under Section 3.5.3 of the “Canada-U.S. FM Agreement” as a limited allotment toward the Longueuil allotment that would not result in any new areas of objectionable interference within the projected protected service contour of the Longueuil allotment.

The proposed Waterbury Class C2 allotment would need to be restricted to the equivalent of approximately 4.7 kW effective radiated power and antenna height of 150 meters above average terrain at an azimuth of 336 degrees True. An assignment for this proposed allotment would be expected to maintain or reduce the existing area of contour overlap between WLKC(FM) and the Longueuil allotment as would be required to avoid any increase in objectionable interference.

The Waterbury Class C2 allotment site is also short-spaced to CBO-FM, Ottawa, Ontario, on Channel 277C1. Maximum Class C1 facilities of 100 kW effective radiated power and antenna height of 300 meters above average terrain were assumed for CBO-FM. The required spacing between the Waterbury Class C2 allotment site and CBO-FM under the “Canada-U.S. FM Agreement” is 271 kilometers; the spacing between the allotment site and CBO-FM is 256 kilometers.

This Exhibit requests that the proposed Waterbury Class C2 allotment be considered as a limited allotment toward CBO-FM, with radiation restricted to the equivalent of 46 kW effective radiated power and antenna height of 150 meters above average terrain at an azimuth of 294 degrees True.

Additionally, the Waterbury Class C2 allotment site is short-spaced to an allotment at Valleyfield, Quebec, on Channel 276A. Maximum Class A facilities of 6 kW effective radiated power and antenna height of 100 meters above average terrain were assumed for the Valleyfield allotment. The required spacing between the Waterbury Class C2 allotment site and the Valleyfield allotment under the “Canada-U.S. FM Agreement” is 137 kilometers; the spacing between the allotment site and the Valleyfield allotment is 123 kilometers.

## EXHIBIT 21 (continued)

### Allocation Study for Substitution of Channel 277C2 for Channel 277C3 at Waterbury, Vermont

This Exhibit requests that the proposed Waterbury Class C2 allotment be considered as a limited allotment toward the Valleyfield allotment, with radiation restricted to the equivalent of 19.5 kW effective radiated power and antenna height of 150 meters above average terrain at an azimuth of 307 degrees True.

The Waterbury Class C2 allotment site is short-spaced to CITE-1, Sherbrooke, Quebec, on Channel 274C1. CITE-1 is authorized to operate with grandfathered high power facilities. For this Exhibit it was assumed that CITE-1 operates with maximum Class C1 facilities of 100 kW effective radiated power and antenna height of 300 meters above average terrain. The required spacing between the Waterbury Class C2 allotment site and CITE-1 under the “Canada-U.S. FM Agreement” is 95 kilometers; the spacing between the allotment site and CITE-1 is 92 kilometers.

A study shows that, for operation at the Waterbury allotment site with maximum Class C2 facilities of 50 kW effective radiated power and antenna height of 150 meters above average terrain, the 94 dBu F(50,10) contour would not extend across the U.S.-Canada border into Canada. This Exhibit requests that, with respect to CITE-1, the proposed Waterbury Class C2 allotment be considered as a specially coordinated short-spaced allotment under Sections 3.5.1 and 5.2.2.4 of the “Canada-U.S. FM Agreement,” for unrestricted operation with the equivalent of maximum Class B facilities.

Also, the Waterbury Class C2 allotment site is short-spaced to a new allotment at Sherbrooke, Quebec, on Channel 278B1. The required spacing between the Waterbury Class C2 allotment site and the Sherbrooke allotment under the “Canada-U.S. FM Agreement” is 149 kilometers; the spacing between the allotment site and the Sherbrooke allotment is 113 kilometers. The Sherbrooke allotment was established subsequent to the Commission’s authorization of the “one-step” upgrade of the transmitting facilities of WLKC(FM) to Channel 277C2 in construction permit File Number BPH-20000721ABF. An assignment for the Waterbury Class C2 allotment would be expected to maintain or reduce any existing area of contour overlap between the operation of WLKC(FM) authorized previously for Channel 277C2 and the Sherbrooke allotment, as would be required to avoid any increase in objectionable interference.

It was determined from the above studies that the limited facilities described in this Exhibit for the proposed Waterbury Class C2 allotment could be achieved with a directional antenna with a ratio of maximum to minimum fields that would not exceed the value of 20 dB set forth in Section 3.6 of the “Canada-U.S. FM Agreement.”

EXHIBIT 21 (continued)

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For the allocation studies related to Canadian stations and allotments, the distances between reference points were determined in accordance with the procedures described in Section 2.6 of the "Canada-U.S. FM Agreement." All distances were rounded to the nearest kilometer.

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Sierra Madre, California