

TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BNPED-20090630ABE
RADIO STATION WICN
WORCESTER, MASSACHUSETTS
CH 213B1 1.1 KW (MAX-DA) 247 M

Technical Narrative

This Technical Exhibit was prepared on behalf of WICN Public Radio, Inc., licensee of noncommercial, educational FM (NCE-FM) station WICN. Station WICN is licensed (BMLED-20060501ANS) to operate on Channel 213B1 (90.5 MHz) at Worcester, Massachusetts, with a directional antenna maximum horizontal plane effective radiated power (ERP) of 8.1 kW and a vertical plane ERP of 7.2 kW using a Dielectric directional antenna system having a main lobe orientation of 255 degrees true and an antenna height above average terrain (HAAT) is 113 meters. In addition, WICN is also authorized by outstanding construction permit (BPED-20070907ADU) to operate on channel 213B1 with a with a directional antenna maximum horizontal plane ERP of 18.2 kW and a vertical plane ERP of 13 kW using a directional antenna system having an antenna height above average terrain (HAAT) is 113 meters. Furthermore, WICN has a pending modification application (BNPED-20090630ABE) which proposes to change transmitter site and operate on channel 213B1 with a directional antenna maximum circularly polarized ERP of 1.1 kW and an HAAT of 247 meters.

The purpose of this instant application is to amend the pending WICN application for modification of construction permit by modifying the directional antenna pattern and to also request a waiver of Section 73.509, which is discussed below. Figure 1 provides the horizontal plane relative field pattern for the modified directional antenna.

City Coverage

Figure 2 is a map showing the 60 dBu contours for the licensed and herein proposed WICN operations. As indicated, the proposed 60 dBu will encompass 100% of the Worcester city limits (obtained from the 2000 Census) which comports with Section 73.515.

Allocation Study

Figure 3 provides a summary of an allocation study for the proposed facility. There are no intermediate frequency (IF) related facilities in close proximity to the proposed facility. The tabulation at Figure 3 lists the results of a numerical analysis of the potential for contour overlap for all nearby co-channel and first-, second-, and third-adjacent-channel facilities. For the purposes of the numerical study, the maximum HAAT and ERP values were

used in calculating the maximum distance to the predicted service and interfering contours.

Figure 4 is a map depicting the predicted protected and interfering contours of those stations close enough to warrant further study. This is based on the numerical analysis in Figure 3, where there is an indication of the potential for prohibited overlapping contours. As indicated in Figures 3 and 4, the Section 73.509 allocation requirements for the proposed facility are fully met with respect to all pertinent facilities with the exception of WYCM on channel 211A at Charlton, Massachusetts.. A waiver of Section 73.509 is requested with respect to WYCM.

Waiver of Section 73.509

Figure 5 is a map which depicts the WICN licensed and proposed 60 dBu protected contours and the interfering 100 dBu contour of second adjacent channel station WYCM (formerly WBPV) on channel 211A at Charlton, Massachusetts (BLED-19840702DM). As indicated, the licensed WICN 60 dBu contour overlaps the WYCM 100 dBu contour and the proposed WICN 60 dBu contour would slightly increase the prohibited overlap area. Therefore, a waiver of Section 73.509 is respectfully requested.

In support of the waiver, it is noted that WYCM's 100 dBu is almost completely engulfed ("donuted") by WICN's licensed 60 dBu due to a "grandfathered" overlap situation. The increased overlap resulting from the proposed operation is considered to be *de minimus* as the area of overlap (received interference) would increase by only 0.1 square kilometers, from 1.4 square kilometers to 1.5 square kilometers. Furthermore, the proposed area of overlap would represent only 0.079% of the total area within the proposed WICN 60 dBu contour (1,950 square kilometers). Also, as shown on Figure 5 the proposed WICN operation will not result in an increase in the population within the 100 dBu overlap area (494 persons, 2000 Census) based on consideration of population centroids. Additionally, the proposed WICN 100 dBu interfering contour does not cause overlap (interference) to the WYCM 60 dBu protected contour as shown on Figure 4.

Also, as indicated on Figure 6 the proposed WICN operation will entirely eliminate grandfathered interfering 40 dBu contour overlap (interference caused) with the protected 60 dBu contour of co-channel station WPKT on channel 213B at Meriden, Connecticut (BLED-19910222KC). The existing 40 dBu contour overlap area contains 8,420 persons (2000 Census) within 75 square kilometers.

Additionally, the FCC predicted 60 dBu coverage area of WICN will be increased from 1,840 square kilometers to 1,905 square kilometers. It is also noted that the

move to the new tower location will improve line-of-sight coverage which is supported by a Longley-Rice 60 dBu coverage comparison which indicates that there will be an increase in 60 dBu coverage to approximately 332,658 persons.

Finally, the FCC's decision in Educational Information Corporation, 6 FCC Rcd 2207 (1991), regarding second and third adjacent channel overlap is analogous to this instant situation.¹

Predicted Coverage and Interfering Contours

The locations of the predicted coverage and interfering contours were calculated in accordance with Section 73.313 of the FCC Rules using the Figures 1 and 1a of Section 73.333. The average terrain elevations from 3 to 16 km were computed every 1-degree of azimuth using the U.S.G.S. 30-second terrain database. The overall antenna HAAT was determined according to the provisions of Section 73.313 of the FCC Rules. The antenna radiation center HAAT in each radial direction and the ERP were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to contours.

Canadian Allocation Study

The proposed site is 302 kilometers from the closest point of the Canadian Border. The 34 dBu F(50,10) Canadian interfering contour for the proposed WICN operation is shown on Figure 7. This contour does not extend into Canada and, thus, no Canadian impact is expected to occur. Therefore, the proposal appears to comply with the U.S./Canada FM Agreement. If necessary, it is respectfully requested that the Commission coordinate the proposal with Canada.

TV Channel 6 Protection

It is required that noncommercial educational FM facilities provide interference protection to affected TV channel 6 facilities as defined in Section 73.525. Pursuant to Section 73.525 (a) (1), all TV channel 6 facilities within 193 kilometers of a proposed channel 213 FM facility must be protected. Station WLNE-TV is the only station which WICN would be involved in normally prohibited contour overlap. In accordance with Section 73.525, a noncommercial educational FM modification application that is accompanied by a written agreement between the NCE-FM applicant and the affected TV channel 6 broadcast station will

¹ See also May 9, 1994 letter from Dennis Williams, Chief, FM Branch, Audio Services Division, Mass Media Bureau regarding WEEE(FM), Cherry Hill, NJ, Broadcast Learning Center, Inc., BPED-930422MA.

be accepted. Therefore, the applicant has obtained a written agreement with the licensee of WLNE-TV stating that it concurs with the NCE-FM facilities. A copy of this agreement is attached elsewhere to this application.

Environmental Considerations

The proposed WICN channel 213B1 facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with the OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields.

The proposed antenna will be mounted at the 63-meter level on the existing tower structure. The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Using a "greater than expected" vertical relative field value of 0.25 for the proposed directional antenna (see Figure 8), the total ERP of 2.2 kW (H+V) and an antenna center of radiation height above ground level of 63 meters, the calculated power density at two meters above ground level at the base of the tower is 0.0012 milliwatts per square centimeter (mW/cm^2), or 0.62% of the Commission's recommended limit applicable to uncontrolled exposure areas ($0.2 \text{ mW}/\text{cm}^2$ for FM channel 213). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the tower site will be restricted. Furthermore, the site will be appropriately marked with RFR warning signs. In addition, as this is a multi-user site, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such procedures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure.



W. Jeffrey Reynolds

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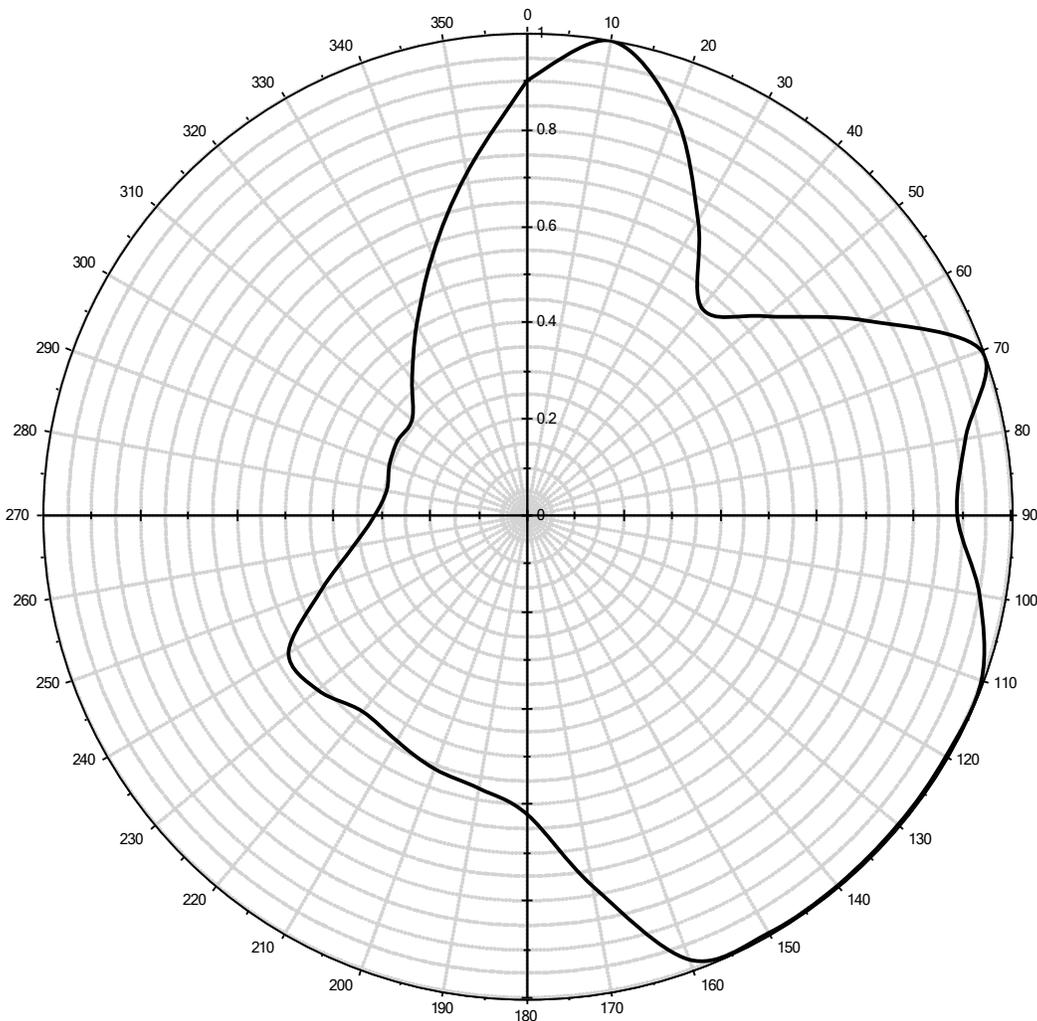
August 27, 2009



DA Inquiry

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida

Antenna Pattern: Antenna ID: 800228



Note: display reflects rotation of 0.00°

Antenna Details:

| | | | | | | | | | | | |
|-----|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 0° | 0.904 | 60° | 0.810 | 120° | 1.000 | 180° | 0.620 | 240° | 0.569 | 300° | 0.310 |
| 10° | 1.000 | 70° | 1.000 | 130° | 1.000 | 190° | 0.575 | 250° | 0.453 | 310° | 0.310 |
| 20° | 0.890 | 80° | 0.920 | 140° | 1.000 | 200° | 0.559 | 260° | 0.365 | 320° | 0.370 |
| 30° | 0.708 | 90° | 0.890 | 150° | 1.000 | 210° | 0.540 | 270° | 0.315 | 330° | 0.456 |
| 40° | 0.563 | 100° | 0.950 | 160° | 0.980 | 220° | 0.530 | 280° | 0.295 | 340° | 0.574 |
| 50° | 0.644 | 110° | 1.000 | 170° | 0.780 | 230° | 0.564 | 290° | 0.303 | 350° | 0.721 |

Antenna Make: NEW

Standard Pattern:

Antenna Model: WICN HYPOTHETICAL

Last Change Date:

CDBS ALLOCATION STUDY

Job Title: Johnstown CP Site
Channel: 213
ERP = 1.1 kW HAAT = 324 m

Separation Buffer: 50 km
Coordinates: 42-18-11 71-53-52

| Callsign ID | City St. | File Status | Channel Freq | ERP(kW) HAAT (m) | DA ID | Latitude Longitude | 73 215 (deg) | Bear | Dist. (km) | Req. (km) |
|---------------|--------------|-------------------|--------------|------------------|-------------------|--------------------|--------------|--------|------------|--------------------|
| NEW 176684 | NEW SALEM MA | BNPED APP | 210 A 89.9 | 0.18 145 | N | 42-30-23 072-19-52 | N 302.6 | 42.22 | 34.2 | Close |
| Proposed | 60.0 dBu | Desired = 14.3 km | Proposed | 100.0 dbu | Undesired = 2.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | NEW | 100.0 dbu | Undesired = .9 | | | | | |
| NEW 172383 | ATHOL MA | BNPED APP | 210 A 89.9 | 1.8 229 | Y | 42-30-22 072-20-42 | N 301.7 | 43.18 | 35.7 | Close |
| Proposed | 60.0 dBu | Desired = 31.5 km | Proposed | 100.0 dbu | Undesired = 2.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | NEW | 100.0 dbu | Undesired = 2.5 | | | | | |
| NEW 174754 | ATHOL MA | BNPED APP | 210 A 89.9 | 2.0 64 | N | 42-34-16 072-19-07 | N 310.9 | 45.67 | 35.0 | Close |
| Proposed | 60.0 dBu | Desired = 17.6 km | Proposed | 100.0 dbu | Undesired = 2.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | NEW | 100.0 dbu | Undesired = 1.7 | | | | | |
| WYCM 4102 | CHARLTON MA | BLEDM LIC | 211 A 90.1 | 0.1 164 | N | 42-08-01 071-57-26 | N 194.6 | 19.45 | 33.9 | Short ¹ |
| Proposed | 60.0 dBu | Desired = 13.2 km | Proposed | 100.0 dbu | Undesired = 2.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | WYCM | 100.0 dbu | Undesired = .7 | | | | | |
| NEW 177374 | FITCHBURG MA | BNPED CP | 211 A 90.1 | 0.1 100 | Y | 42-35-12 071-51-12 | N 6.6 | 31.72 | 33.9 | Short ² |
| Proposed | 60.0 dBu | Desired = 10.3 km | Proposed | 100.0 dbu | Undesired = 2.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | NEW | 100.0 dbu | Undesired = .7 | | | | | |
| WZBC 68240 | NEWTON MA | BMLED LIC | 212 A 90.3 | 1.0 98 | N | 42-20-05 071-10-31 | N 86.4 | 59.67 | 68.5 | Short ³ |
| Proposed | 60.0 dBu | Desired = 18.4 km | Proposed | 54.0 dbu | Undesired = 50.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | WZBC | 54.0 dbu | Undesired = 27.1 | | | | | |
| WRIU 69206 | KINGSTON RI | BLEDM LIC | 212 A 90.3 | 3.4 158 | | 41-29-52 071-31-43 | N 161.0 | 94.54 | 80.6 | Close |
| Proposed | 60.0 dBu | Desired = 30.5 km | Proposed | 54.0 dbu | Undesired = 50.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | WRIU | 54.0 dbu | Undesired = 46.0 | | | | | |
| WAMC-FM 70849 | ALBANY NY | BMLED LIC | 212 B 90.3 | 10.0 821 | N | 42-38-14 073-10-07 | N 290.0 | 110.91 | 143.2 | Short ³ |
| Proposed | 60.0 dBu | Desired = 75.4 km | Proposed | 54.0 dbu | Undesired = 50.1 | | | | | |
| Proposed | 60.0 dBu | Desired = 33.2 km | WAMC-FM | 54.0 dbu | Undesired = 110.0 | | | | | |
| WICN 72379 | WORCESTER MA | BMPED APP | 213 B1 90.5 | 1.1 324 | Y | 42-18-11 071-53-52 | N 90.0 | | | |
| WICN 72379 | WORCESTER MA | BMLED LIC | 213 B1 90.5 | 8.1 166 | Y | 42-20-09 071-42-57 | N 76.2 | | | |
| WICN 72379 | WORCESTER MA | BPED CP | 213 B1 90.5 | 18.2 166 | Y | 42-20-09 071-42-57 | N 76.2 | | | |

¹ Waiver of Section 73.509 requested. See Technical Narrative and Figure 5.

² Sufficient contour clearance - detailed study not warranted.

³ No contour overlap - see Figure 4.

| Callsign ID | City St. | File Status | Channel Freq | ERP(kW) HAAT(m) | DA ID | Latitude Longitude | 73 215 | Bear (deg) | Dist. (km) | Req. (km) |
|---------------|----------------|-------------------|-------------------|-----------------|-------|------------------------|--------|------------|------------------------------------|--------------------------|
| NEW 175362 | DERRY NH | BNPED APP | 213 A 90.5 | 0.15 178 | Y | 42-53-07 071-16-03 | N | 38.3 | 82.82 -22.01 | 104.8 Short ⁴ |
| NEW Proposed | 60.0 dBu | Desired = 15.3 km | Desired = 33.2 km | Proposed NEW | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 49.7 | |
| NEW 173234 | AUBURN NH | BNPED APP | 213 A 90.5 | 0.1 43 | N | 42-57-25 071-21-39.1 | N | 31.0 | 84.95 -11.31 | 96.3 Short ³ |
| NEW Proposed | 60.0 dBu | Desired = 6.7 km | Desired = 33.2 km | Proposed NEW | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 22.4 | |
| WSPS 62166 | CONCORD NH | BLED LIC | 213 A 90.5 | 0.2 27 | N | 43-11-37 071-34-29 | N | 14.8 | 102.4 6.13 | 96.3 Close |
| WSPS Proposed | 60.0 dBu | Desired = 6.7 km | Desired = 33.2 km | Proposed WSPS | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 22.4 | |
| WPEA 68250 | EXETER NH | BLED LIC | 213 A 90.5 | 0.1 35 | N | 42-58-44 070-57-00 | N | 45.6 | 108.07 12.46 | 95.6 Close |
| WPEA Proposed | 60.0 dBu | Desired = 6.0 km | Desired = 33.2 km | Proposed WPEA | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 20.1 | |
| WPKT 13627 | MERIDEN CT | BLED LIC | 213 B 90.5 | 18.5 314 | Y | 41-33-42 072-50-41 | N | 223.9 | 113.8 -54.23 | 168.0 Short ³ |
| WPKT Proposed | 60.0 dBu | Desired = 56.7 km | Desired = 33.2 km | Proposed WPKT | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 134.8 | |
| WSMA 122202 | SCITUATE MA | BLED LIC | 213 B1 90.5 | 7.7 164 | Y | 41-56-02 070-35-10 | N | 110.3 | 115.97 -17.45 | 133.4 Short ³ |
| WSMA Proposed | 60.0 dBu | Desired = 37.7 km | Desired = 33.2 km | Proposed WSMA | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 100.2 | |
| WSMA 122202 | SCITUATE MA | BMLED APP | 213 B1 90.5 | 7.7 164 | Y | 41-56-02 070-35-10 | N | 110.3 | 115.97 -17.45 | 133.4 Short ³ |
| WSMA Proposed | 60.0 dBu | Desired = 37.7 km | Desired = 33.2 km | Proposed WSMA | | 40.0 dbu 40.0 dbu | | | Undesired = 89.6 Undesired = 100.2 | |
| WTCC 62018 | SPRINGFIELD MA | BMLED LIC | 214 A 90.7 | 4.0 73 | N | 42-06-32 072-34-45 | N | 249.2 | 60.26 -12.10 | 72.4 Short ⁵ |
| WTCC Proposed | 60.0 dBu | Desired = 22.3 km | Desired = 33.2 km | Proposed WTCC | | 54.0 dbu 54.0 dbu | | | Undesired = 50.1 Undesired = 33.3 | |
| NEW 171698 | PLAINFIELD CT | BNPED APP | 214 A 90.7 | 0.9 168 | Y | 41-42-45.6 071-49-08.7 | N | 174.3 | 65.9 -7.44 | 73.3 Short ⁵ |
| NEW Proposed | 60.0 dBu | Desired = 23.2 km | Desired = 33.2 km | Proposed NEW | | 54.0 dbu 54.0 dbu | | | Undesired = 50.1 Undesired = 34.7 | |
| NEW 173091 | WAUREGAN CT | BNPED APP | 214 A 90.7 | 1.152 119 | Y | 41-40-29 071-52-47 | N | 178.8 | 69.81 -1.34 | 71.1 Short ⁵ |
| NEW Proposed | 60.0 dBu | Desired = 21.0 km | Desired = 33.2 km | Proposed NEW | | 54.0 dbu 54.0 dbu | | | Undesired = 50.1 Undesired = 31.1 | |
| NEW 175975 | DANIELSON CT | BNPED APP | 214 A 90.7 | 1.7 185 | Y | 41-39-44 071-50-51 | N | 176.6 | 71.3 -6.74 | 78.0 Short ⁵ |
| NEW Proposed | 60.0 dBu | Desired = 27.9 km | Desired = 33.2 km | Proposed NEW | | 54.0 dbu 54.0 dbu | | | Undesired = 50.1 Undesired = 42.1 | |
| NEW 159759 | HOPE VALLE RI | BNPED APP | 214 A 90.7 | 0.53 146 | Y | 41-38-27 071-45-12 | N | 170.7 | 74.52 5.25 | 69.3 Close |
| NEW Proposed | 60.0 dBu | Desired = 19.2 km | Desired = 33.2 km | Proposed NEW | | 54.0 dbu 54.0 dbu | | | Undesired = 50.1 Undesired = 28.3 | |

⁴ No contour overlap - see Figure 4.

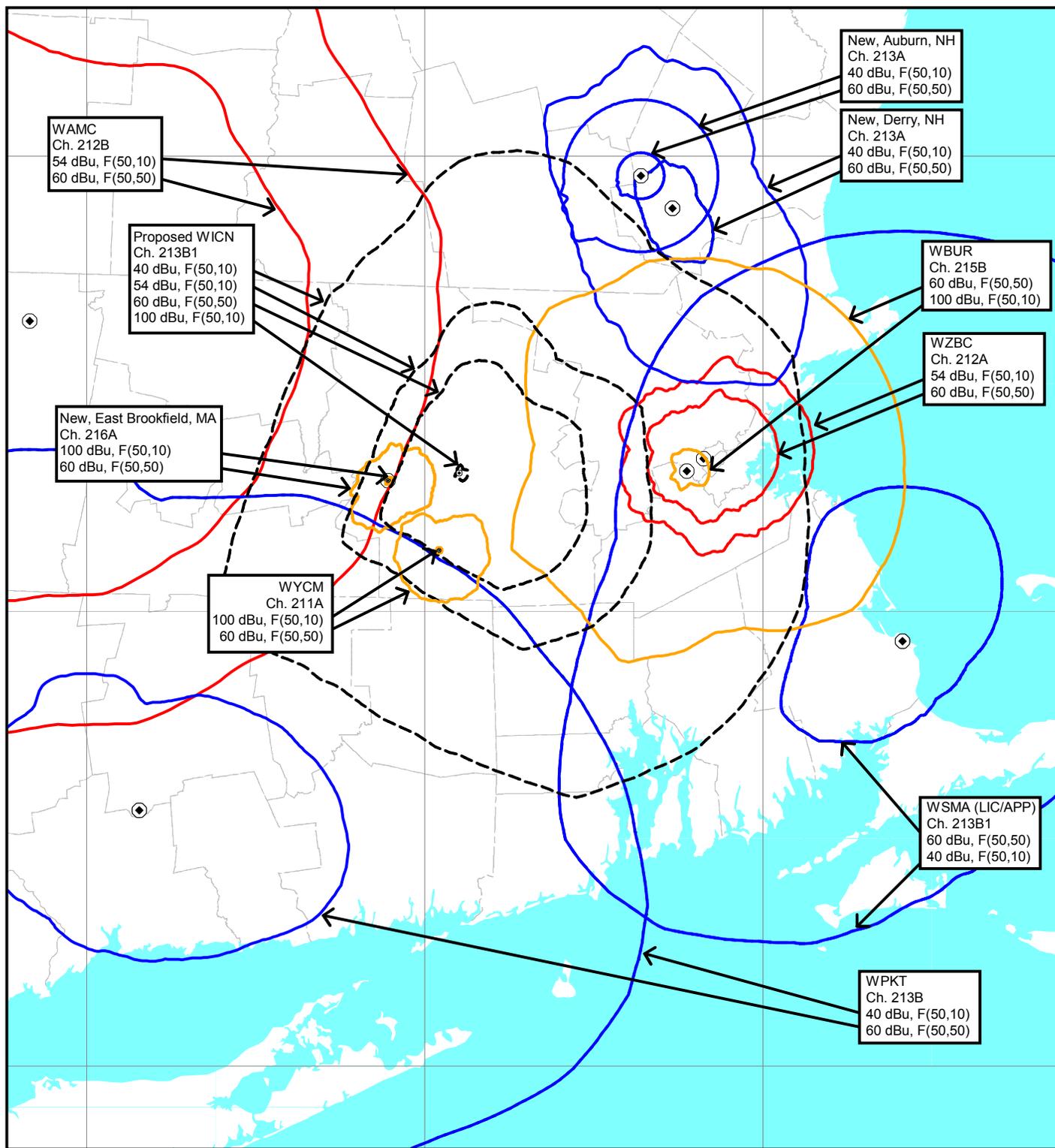
⁵ Sufficient contour clearance - detailed study not warranted.

| Callsign ID | City St. | File Status | Channel Freq | ERP(kW) HAAT(m) | DA ID | Latitude Longitude | 73 215 | Bear (deg) | Dist. (km) | Req. (km) |
|------------------|---------------|-----------------------|-------------------|-------------------|---------|--------------------|------------------|------------------|-------------|-------------------------|
| WLMW 35251 | MANCHESTER NH | BLED LIC 19970829KB | 214 A 90.7 | 0.015 265 | Y | 42-58-59 071-35-25 | N | 18.3 | 79.64 18.98 | 60.7 Clear |
| WLMW Proposed | 60.0 dBu | Desired = 10.5 km | Proposed 60.0 dBu | Desired = 33.2 km | WLMW | 54.0 dbu | Undesired = 50.1 | Undesired = 14.7 | | |
| WEVN 48440 | KEENE NH | BLED LIC 20030815ADI | 214 B1 90.7 | 1.5 412 | Y | 43-02-00 072-22-04 | N | 334.8 | 89.81 -3.82 | 93.6 Short ⁶ |
| WEVN Proposed | 60.0 dBu | Desired = 39.8 km | Proposed 60.0 dBu | Desired = 33.2 km | WEVN | 54.0 dbu | Undesired = 50.1 | Undesired = 60.4 | | |
| WBUR-FM 68241 | BOSTON MA | BLED LIC 20050812AGN | 215 B 90.9 | 12.0 333 | Y | 42-18-27 071-13-27 | N | 89.3 | 55.55 -0.52 | 56.1 Short ⁷ |
| WBUR-FM Proposed | 60.0 dBu | Desired = 53.9 km | Proposed 60.0 dBu | Desired = 33.2 km | WBUR-FM | 100.0 dbu | Undesired = 2.1 | Undesired = 5.5 | | |
| NEW 171988 | EAST BROOK MA | BNPED APP 20071022AUG | 216 A 91.1 | 0.45 138 | Y | 42-17-13 072-06-32 | N | 264.2 | 17.5 -17.09 | 34.6 Short ⁷ |
| NEW Proposed | 60.0 dBu | Desired = 17.8 km | Proposed 60.0 dBu | Desired = 33.2 km | NEW | 100.0 dbu | Undesired = 2.1 | Undesired = 1.4 | | |
| WKMY 92287 | WINCHENDON MA | BLED LIC 20060302ACZ | 216 A 91.1 | 0.06 190 | N | 42-42-09 072-02-18 | N | 345.5 | 45.85 12.07 | 33.8 Close |
| WKMY Proposed | 60.0 dBu | Desired = 12.5 km | Proposed 60.0 dBu | Desired = 33.2 km | WKMY | 100.0 dbu | Undesired = 2.1 | Undesired = .5 | | |
| WBVC 91189 | POMFRET CT | BLED LIC 20010223AAC | 216 A 91.1 | 0.1 162 | N | 41-53-27 071-57-24 | N | 186.1 | 46.05 12.11 | 33.9 Close |
| WBVC Proposed | 60.0 dBu | Desired = 13.1 km | Proposed 60.0 dBu | Desired = 33.2 km | WBVC | 100.0 dbu | Undesired = 2.1 | Undesired = .7 | | |

⁶ Sufficient contour clearance - detailed study not warranted.

⁷ No contour overlap - see Figure 4.

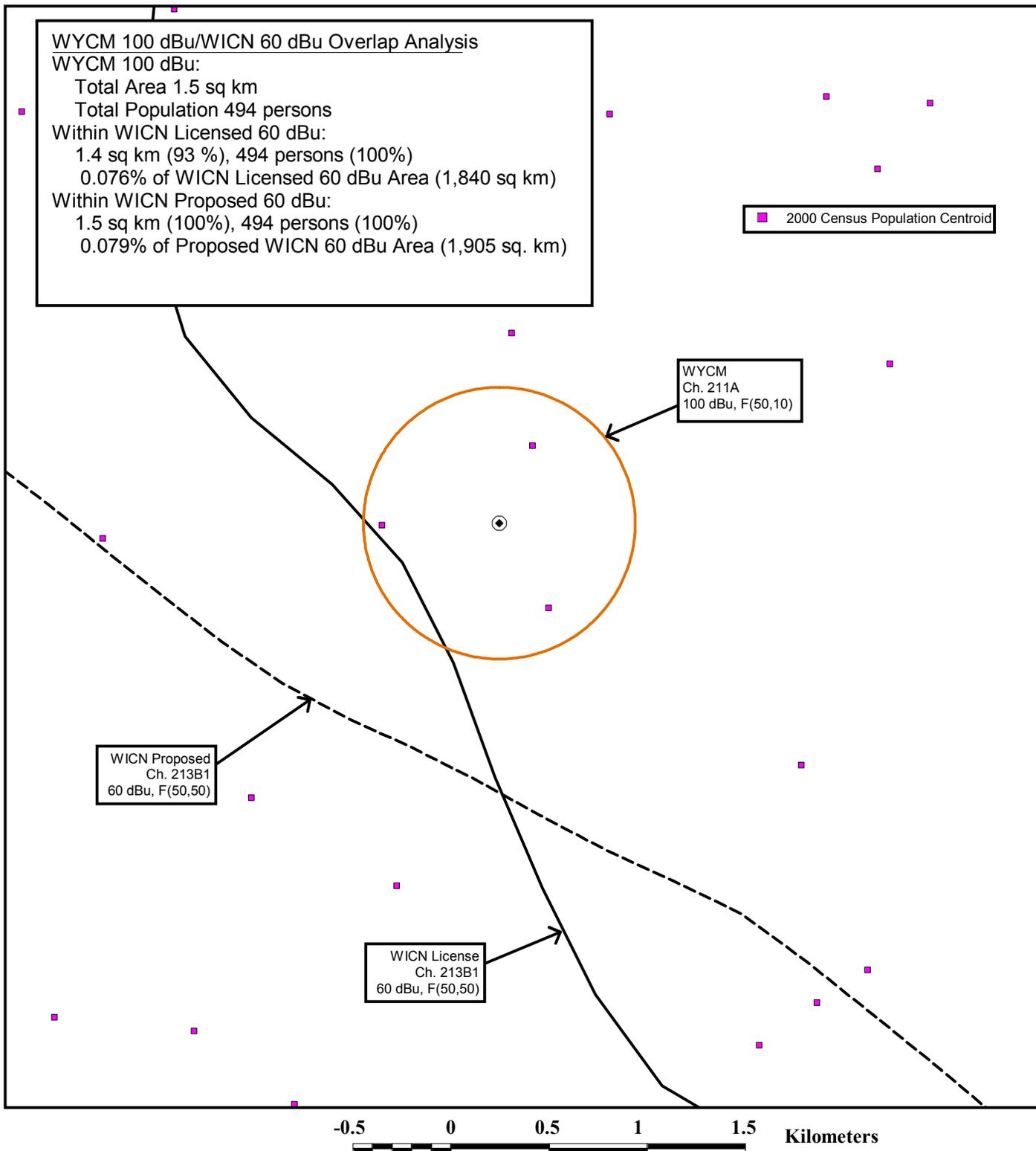
Figure 4



SECTION 73.509 COMPLIANCE

FM STATION WICN
WORCESTER, MASSACHUSETTS
CH 213B1 1.1 KW (MAX-DA) 247 M

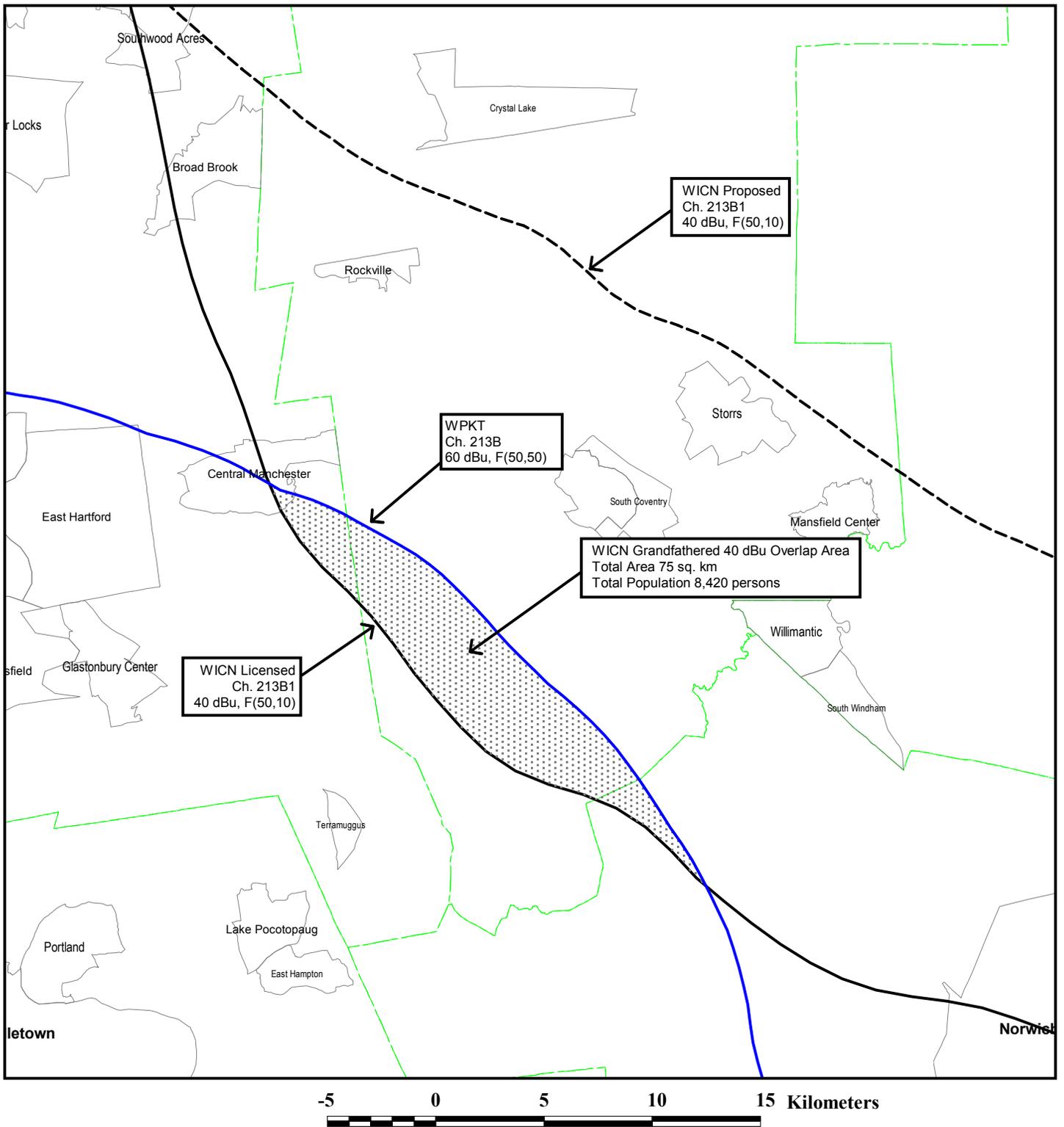
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



SECTION 73.509 WAIVER

FM STATION WICN
WORCESTER, MASSACHUSETTS
CH 213B1 1.1 KW (MAX-DA) 247 M

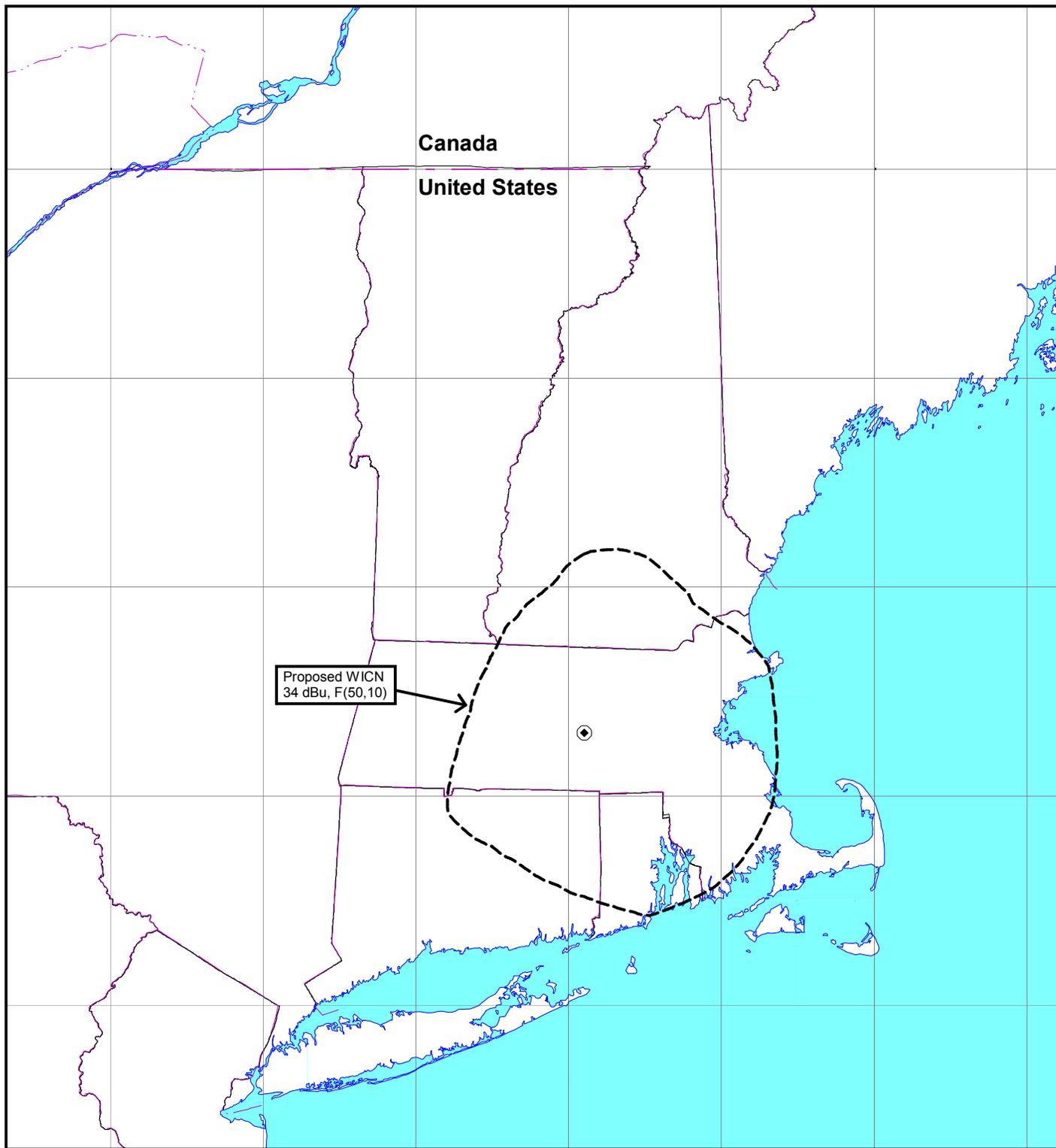
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



SECTION 73.509 WAIVER

FM STATION WICN
WORCESTER, MASSACHUSETTS
CH 213B1 1.1 KW (MAX-DA) 247 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



CANADIAN ALLOCATION STUDY

FM STATION WICN
WORCESTER, MASSACHUSETTS
CH 213B1 1.1 KW (MAX-DA) 247 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 8

ELECTRONICS RESEARCH, INC.
108 MARKET STREET
NEWBURGH, IN. 47630

----- THEORETICAL -----
VERTICAL PLANE RELATIVE FIELD

MAY 24, 1993
ELEMENT SPACING:
0.5 WAVELENGTH

4 ERI TYPE SHP, SHPX, LP, OR LPX ELEMENTS
0 DEGREE(S) BEAM TILT
0 PERCENT FIRST NULL FILL

POWER GAIN IS 1.907 IN THE HORIZONTAL PLANE(1.907 IN THE MAX.)

FIGURE #4

