

## MONTROSE BROADCASTING CORPORATION

FM Broadcast Translator W227AB  
Endicott, NY  
Ch. 234FT (94.7 MHz.)  
0.25 kW, DA, Om AAT

### ENGINEERING STATEMENT

This report along with supporting engineering figures and appendices, is presented on behalf of Montrose Broadcasting Corporation, licensee of FM Broadcast Translator W227AB, Endicott, NY (Facility ID No. 43660), a translator which provides fill-in service for Montrose Broadcasting's licensed station WPGL-FM, Channel 243B (96.5 MHz.), Montrose, PA. By this application, Montrose Broadcasting seeks a Minor Change construction permit which would reassign W227AB from Channel 227FT (93.3 MHz.) to Channel 234FT (94.7 MHz.), raise Effective Radiated Power from 41 watts to 250 watts (0.25 kW.) and substitute a composite directional antenna for the nondirectional antenna currently in use. For the reasons to be stated, this application qualifies as a minor change.

### TENDERABILITY OF THIS APPLICATION:

Montrose Broadcasting Corp. has operated fill-in FM translator W227AB, Endicott, NY on Channel 227FT from the same site for nearly two decades, most recently under license BLFT-20040903ABE. Subsequent to the grant of the most recent license, the Commission authorized a newly-created Noncommercial Educational FM allotment on Channel 227A (93.3 MHz.) at Susquehanna, PA. On August 5, 2011, the Commission granted The Broome County Urban League, Inc. construction permit BNPED-20100226AFC (Facility ID No. 185048) for WJOB-FM, the noncommercial educational facility to operate on Ch. 227A at Susquehanna, PA. Due to the proximity of translator W227AB's site and interfering contour to the protected contour of co-channel WJOB-FM (per its authorized CP), it is expected that W227AB will be required to terminate its secondary service prior to the implementation of the WJOB-FM CP. Accordingly, Montrose Broadcasting Corp. must request an alternate channel for translator W227AB at Endicott, NY so as to preserve its needed fill-in service.

Section 74.1233 of the Commission's Rules customarily restricts an FM translator "Minor Change" frequency reassignment to the first, second or third adjacent channels, or the intermediate frequency (I.F.)-related channels to that of the translator's operation. As such, a reassignment from Channel 227FT to 234FT would not normally qualify for minor change processing. However, based on conversations between Montrose Broadcasting Corporation's counsel and Commission staff, Montrose Broadcasting Corp. respectfully seeks a waiver of Section 74.1233 processing rules due to the unique circumstances affecting translator W227AB.

APPENDIX A, Pages 1 through 9, attached, provides a Preclusion Study of all pertinent alternative channels which would qualify under the Minor Change provisions of Section 74.1233 affecting FM translator W227AB at Endicott, NY. As shown, all six adjacent channels (Channels 224FT, 225FT, 226FT, 228FT, 229FT and 230FT), plus the two I.F.-related channels (Channels 280FT and 281FT) are precluded at the W227AB site by existing licensed facilities. Furthermore, the Preclusion Study maps indicate no reasonable site relocation or facility modification could be undertaken on those channels to preserve the translator's operation at Endicott. Thus, the only feasible alternative is to propose modification to a channel outside the six adjacent or two I.F.-related channels customarily accorded Minor Change status.



A thorough review of the FM spectrum by this office reveals that Channel 234FT (94.7 MHz.) constitutes the only viable alternative channel for FM translator W227AB's continued operation at Endicott. And due to the allocation constraints on Channel 234FT, a directional antenna is proposed to be substituted for the nondirectional antenna utilized under the current license.

#### ALLOCATION CONSIDERATIONS:

A complete review of all authorized FM broadcast, Low Power FM and secondary FM translator facilities impacting Channel 234FT (94.7 MHz.) at Endicott, NY has identified the following stations as warranting study to insure compliance with the contour protection requirements of Section 74.1204 of the Rules:

Ch. 231	(94.1 MHz.):	(none)	---	---	---
Ch. 232L1	(94.3 MHz.):	WLRF-LP	Binghamton, NY	0.002 kW @	182m AAT
Ch. 233B	(94.5 MHz.):	WYYY	Syracuse, NY	100.0 kW @	198m AAT
Ch. 234A	(94.7 MHz.):	WIYN	Deposit, NY	0.77 kW @	196m AAT
Ch. 234B1	( " " ):	WMTT	Tioga, PA	12.0 kW @	147m AAT
Ch. 235	(94.9 MHz.):	(none)	---	---	---
Ch. 236FT	(95.1 MHz.):	W236AP	Binghamton, NY	0.099 kW @	-86.5m AAT
Ch. 237	(95.3 MHz.):	(none)	---	---	---
Ch. 287	(105.3 MHz.):	(none)	---	---	---
Ch. 288	(105.5 MHz.):	(none)	---	---	---

Except for licensed Low-Power FM station WLRF-LP, Binghamton, NY, ERP and HAAT specifications for all of the co-channel and adjacent channel stations are those currently available from the Commission's FM database. Corrected terrain calculations for WLRF-LP will be explained below.

FIGURE 1 of this application provides a Vertical Plan Sketch of the Proposed Modified W227AB Translator Antenna. No Change is proposed in the site location, or in the height or nature of the antenna supporting structure. This structure, as existing and licensed, consists of a 10.7 meter (35 foot) AGL wooden pole with metal mast mounted atop. Total structure height remains 12.2 meters (40 feet) AGL or 374.9 meters (1230 feet) AMSL.

As noted on this sketch, the application proposes a directional composite antenna placed at the top of this structure. The composite antenna is comprised of two (2) Kathrein Scala CA2-FM/CM/RM two-element, circularly-polarized FM antennas, one mounted at 173°T azimuth, the second at 270.5° azimuth, thereby providing a horizontal separation in bearing of 97.5 degrees.

FIGURE 2 provides a full-size portion of the Endicott, NY USGS 7½-min. topo map on which is designated the (continued) location of the modified W227AB translator site.

FIGURE 3 provides a computer printout of the proposed directional composite antenna pattern rotated to the specified azimuth(s) of this proposal. The individual relative field strengths for each of the two elements in this composite antenna are based on the stated (or for intermediate azimuths, interpolated) specifications from the manufacturer.

FIGURES 4A & 4B constitute first a complete FM allocation map for the proposed modified W227AB on Channel 234FT at Endicott, NY; and then a detailed allocation map for the same proposal. As shown, the proposed



F(50,10) allocation contours pertinent to other authorized facilities in this study do not cross the corresponding protected F(50,50) contours of subject stations. Nor does any other FM translator in this study contribute an interfering contour which would cross the protected 60dBu; F(50,50) contour of the proposed modified W227AB.

CORRECTION OF HAAT DATA: WLRF-LP:

As earlier referenced, this application's allocation study utilizes corrected antenna Height Above Average Terrain calculations for licensed Low Power FM station WLRF-LP, Binghamton, NY. An explanation follows.

The Commission's license for WLRF-LP. File No. BLL-20061102ACC (Facility ID No. 132127) lists the following Non-Directional antenna specifications for WLRF-LP:

Effective Radiated Power:	2 watts
Height of Radiation Center Above Ground:	23 meters
Height of Radiation Center Above Mean Sea Level:	575 meters
Height of Radiation Center Above Average Terrain:	224 meters

Antenna Registration data for this site (per Registration 1006942) confirms a ground level elevation of 551.7 meters (rounded to 552 meters) AMSL. Therefore, a 23 meters AGL antenna would place its Radiation Center at 575 meters. These figures are not in dispute. But the Commission's calculation of an Antenna HAAT of 224 meters remains a question. And an error is suspected.

APPENDIX B, Pages 1 & 2 provide first a computer-generated calculation of antenna HAAT and protected 60dBu F(50,50) contours for WLRF-LP at its licensed site, and then a copy of the Commission's ASR Registration for the WLRF-LP supporting structure. The computer program's elevation data is based on the elevation data for the site and a 23 meter AGL antenna, per the WLRF-LP license. As shown, this program calculates a corrected WLRF-LP antenna HAAT of 182.05 meters. This corrected HAAT data and the contours produced with an ERP of two (2) watts were utilized in the allocation study to generate the maps in Figures 4A and 4B.

SERVICE CONTOUR CONSIDERATIONS:

Under the eligibility standards of Section 74.1232 of the Rules, the 54dBu F(50,50) service contour of the proposed modified W227AB, Endicott, NY must be wholly contained within the 54dBu F(50,50) protected contour of its primary Class B station, WPEL-FM, Montrose, PA, the station for which it provides fill-in service. WPEL-FM is a non-profit, non-commercial station which utilizes a commercial FM allotment. The Allocation Maps, FIGURES 4A & 4B, provide a depiction of the WPEL-FM calculated 60dBu F(50,50) and 54dBu F(50,50) contours along with the pertinent allocation contours for the proposed modified W227AB. Though the translator's proposed 54dBu F(50,50) contour is not shown on this map, the much larger 48dBu F(50,10) and 40dBu F(50,10) contours are depicted. And both of these contours are wholly contained within the 54dBu F(50,50) contour of WPEL-FM. Therefore, compliance with the standards of Section 74.1232 is demonstrated.

As it addresses Section 74.1232(b) of the Rules concerning the licensing of multiple FM translators which may, "serve substantially the same area," this applicant takes note that it holds the license for FM translator W292DL,

Binghamton, NY which also provides WPEL-FM fill-in service on Channel 292FT (106.3 MHz.) per license BLFT-20070424AAU (Facility ID No. 43661). The sites for W227AB and W292DL are separated by 16.5 kilometers (10.3 miles).

FIGURE 5 provides a computer-generated coverage map on which are depicted the 60dBu F(50,50) protected contours of the licensed W292DL, Binghamton, NY and the proposed Modified W227AB advanced in this application. Since, as shown, the 60dBu contours for neither facility or proposal cross each other, it is concluded that neither translator serves "substantially the same area" as the other.

FIGURE 6 provides a computer-generated coverage map showing this proposal's 60dBu F(50,50) and 54dBu F(50,50) service contours. As shown, this proposal covers 100 per cent of the (shaded) village of Endicott, NY.

#### ENVIRONMENTAL CONSIDERATIONS:

As per the site sketch in FIGURE 1, this proposal would situate two (2) Kathrein Scala CA2-CP/RM directional FM antennas at the top of a 12.2 meter (40 foot) existing pole and metal mast. Utilizing a 12-meter AGL elevation and proposed Effective Radiated Power of 250 watts (0.25 kW), ground-level power density calculations have been estimated from available information on file for similar antennas.

Table 1(B), Appendix A of OET Bulletin 65 (August 1997) lists the permissible Power Density Limits for the General Population/Uncontrolled Exposure at  $0.2 \text{ mW/cm}^2$  for this frequency range.

Calculations of Ground Level Power Density for the proposed antennas, elevation and ERP of the proposed modified W227AB, Endicott, NY estimate the Ground Level Power Density at only  $0.038 \text{ mW/cm}^2$ , a figure that stands at only 19 per cent of the  $0.2 \text{ mW/cm}^2$  limit.

The proposed (and licensed) W227AB antenna supporting structure is located in a secured area not accessible to the general public.

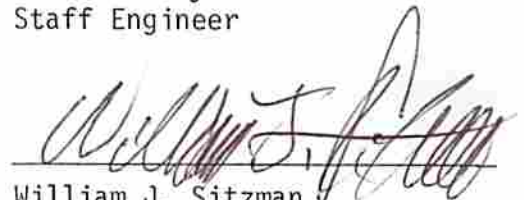
This applicant further certifies that should maintenance be performed on the proposed antennas, it will either extinguish transmitter power or reduce it to such a level as to assure compliance with radiofrequency guidelines established by the Commission.

Given that no change is proposed in the antenna structure or its height, this proposal is excluded from other aspects of environmental processing under Section 1.1306 of the Rules.

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