

Robert A. Lynch  
FM Broadcast Translator W273CO-CP  
Lansing, NY  
Ch. 273FT (102.5 MHz.), 19w. ERP, -7m AAT

ENGINEERING STATEMENT

INTRODUCTION

This Engineering Statement has been prepared by Robert A. Lynch, Permittee for new commercial FM Broadcast Translator station **W273CO**, Lansing, NY, Facility Id. No. 150701. FM translator W273CO is authorized under FCC construction permit File number **BNPFT-20130829ACA**, granted by the Commission on January 13, 2014 and set to expire on January 13, 2017. By this minor modification application, the permittee seeks to relocate the antenna site of the still-unconstructed W273CO facility so that it would be co-located with that of licensed FM broadcast translator W283BQ, (Ch. 283FT, 104.5 MHz.), Ithaca, NY also owned and operated by the permittee, Mr. Lynch.

As originally authorized, FM Translator W273CO was to be placed at the 46m AGL level, near the top of the center radiator of a proposed AM broadcast array. The underlying AM proposal is that of Romar Communications Inc., of which the W273CO permittee, Mr. Lynch, serves as president. As of the date of this filing, the Romar Communications Inc. AM construction permit application, BNP-20020522AAM, (Facility ID. No. 136961), as amended, remains pending before the Commission. This permittee cannot predict whether Romar's proposal will be authorized, let alone constructed, in time to enable installation and licensing of the W273CO translator before the translator's own authorizing construction permit expires in January 2017. So as to protect the W273CO authorization, this permittee has chosen to propose the translator site's modification, seeking to co-locate it with the W283BQ operation.

As constructed under license BLFT-20130711ABM, and modified by BMLFT-20141117AQS, FM translator W283BQ operates with an Effective Radiated Power of 0.019 kW. (19 watts), utilizing a single bay non-directional FM antenna mounted atop a 13.4 m AGL supporting structure. As described in its authorizing license, that structure consists of a 10.4 meter (34 foot) wooden pole with a two-inch diameter metal pipe mounted atop, a pipe rising 3.0 meters (10 feet) above the top of the pole. The supporting structure is located atop a ridge surrounding an abandoned gravel pit, itself part of a farm at which the nearest agricultural operation is a small seasonal hog-raising facility. To provide effective access to commercial power, the licensed W283BQ transmitter building, as modified, stands approximately 122 meters or 400 feet from the antenna. After nearly 18 months of continuous operation, the W283BQ facility has proven reliable and provides excellent reception over its predicted service area.

The W273CO minor modification proposed herein would involve no new physical construction at the W283BQ translator site. Rather, the W273CO and W283BQ signals would be combined and broadcast via the existing W283BQ antenna, utilizing the existing aboveground and underground transmission lines. Given that both the licensed W283BQ and proposed W273CO translators would operate at low power (19 watts ERP each), the existing antenna and transmission lines are adequate to handle both signals. Translators W273CO and W283BQ, though commonly-owned, would rebroadcast separate stations.

POWER LIMITATIONS AND ANTENNA SYSTEM

The proposed W273CO would not provide fill-in service within the coverage area of the primary station. Therefore, this facility must comply with the standards of § 74.1235(b)(1) of the Rules.

FIGURE 5 provides a terrain tabulation printout for the proposed modified site's coordinates. Average terrain and antenna HAAT vary greatly among the twelve evenly-spaced bearings surrounding the site. The highest antenna HAAT is at 60 Degrees True, where the HAAT stands at 115 meters. In accordance with the standards of § 74.1235(b)(1), the maximum non-directional ERP for this facility is 19 watts, the ERP advanced in this proposal. Thus this proposal stands in compliance with the power limitations specified in the Rules.

ENVIRONMENTAL CONSIDERATIONS

This proposed modification would involve no new construction or land clearing. Therefore, it would not involve any of the actions which might trigger environmental review, aside from those involving radiofrequency emissions.

The proposed modified W273CO facility would operate with an Effective Radiated Power of 0.019 kW. (19 watts), the same as that of the licensed co-located translator W283BQ. Thus the environmental impact of each facility is identical, and the cumulative impact of the two translators, operating simultaneously, is exactly double of each operating separately.

Reference is directed to OET Bulletin #65, released August 1, 1997. Table B on Page 67 of the document depicts the ANSI/IEEE protection requirements. The maximum permissible exposure for uncontrolled environments in the 30 to 300 MHz. band is a power density of 0.2 milliwatts per centimeter squared ( $\text{mw}/\text{cm}^2$ .) As a worst-case, power density is studied at points 2 meters above ground level contiguous to the FM translator antenna and if not excessive at that elevation, it would certainly not be excessive below that elevation where the general public may have access.

Each FM translator will operate with 0.019 kW. ERP utilizing a one-bay antenna 13 meters above ground level. The greatest radiofrequency power density 2 meters above ground level is defined by the field elevation pattern of the Armstrong FMA-707-1 antenna and produces a maximum power density of  $0.0034 \text{ mw}/\text{cm}^2$  at that elevation. This is 1.7% of the  $0.2 \text{ mw}/\text{cm}^2$  limit for the uncontrolled environment and well within FCC/ANSI limits for an uncontrolled environment.

With the licensed W283BQ and the proposed modified W273CO operating simultaneously, the maximum ground level power density will be  $0.0068 \text{ mw}/\text{cm}^2$ , or 3.4% of the  $0.2 \text{ mw}/\text{cm}^2$  limit for the uncontrolled environment. Therefore, compliance is achieved under the ANSI/IEEE standards for the uncontrolled environment.

This applicant, the licensee or permittee of both facilities, hereby certifies that when work is performed on the W273CO/W283BQ combined antenna or supporting structure above the 2 meter AGL level, power to each translator will be extinguished until work on such facility or its supporting structure is completed.

ALLOCATION CONSIDERATIONS

FIGURE 3 of this application provides a Tabulation of Facilities and Proposals employed in this allocation study. FIGURE 4 provides an Allocation Map upon which the pertinent stations located close enough to require study are depicted, along with their pertinent protected and/or interfering contours. In addition to this modified proposal, six co-channel and adjacent channel stations are shown.

As demonstrated on FIGURE 4, the proposed modified W273CO would neither contribute nor receive prohibited interference to or from co-channel or adjacent channel stations in contravention of § 74.1204 of the Rules.

With regard to I.F.-related stations, those separated 53 or 54 channels from this proposal, two facilities are deemed close enough to require study. As tabulated in FIGURE 3, this proposal is short-spaced by 3.7 kilometers to Radio Station WICB, Ithaca, NY, operating on Channel 219A (91.7 MHz.). Meanwhile, this proposal is fully-spaced to the second I.F.-related station, WRFI, Watkins Glen, NY, licensed to Channel 220A (91.9 MHz.) The proposed modified W273CO would operate with 19 watts ERP. Section 74.1204(g) of the Rules provides that translator stations operating with less than 100 watts ERP will not be subject to intermediate frequency separation requirements. Therefore, despite its I.F.-related short-spacing, this proposal is acceptable for filing.

Regarding one of the co-channel stations addressed in this allocation study, the W273CO permittee stands aware that the licensee of FM translator W273AB, Owego, NY has been granted FCC minor change construction permit File No. BPFT-20151109FNX (Facility Id. 71399). Said permit would relocate the W273AB antenna site to the east of its licensed location and change the community of license to Vestal, NY. An engineering examination of the W273AB minor change application indicates it would place both its protected and interfering contours more distant from the proposed W273CO facilities than those of the licensed W273AB, Owego. Therefore, the newly-authorized W273AB-CP contours have been ignored in this study. Only the licensed W273AB contours have been depicted on FIGURE 4.

TABULATION OF ATTACHED FIGURES

The following tabulation describes exhibits supporting this application:

FIGURE 1 is a portion of the Ithaca West topographic map on which is depicted the proposed modified W273CO antenna site;

FIGURE 2 is a computer-generated allocation map showing the 60dBu contour overlap between the W273CO CP and proposed contours, thereby demonstrating that this proposal qualifies as a minor change under § 74.1233(a)(2) of the Rules;

FIGURE 3 is a channel 273FT spacing/interference study showing clearance to all facilities and proposals aside from those addressed elsewhere in this report;

FIGURE 4 is an FM allocations map showing the permitted contour clearance between the proposed modified W273CO, Lansing, NY and other pertinent facilities and proposals;

FIGURE 5 is a tabulation of facility and contour data for the proposed modified W273CO, utilizing the antenna coordinates of the co-located and licensed W283BQ, Ithaca, NY and the W283BQ antenna and its supporting structure.

Based on the foregoing narrative and the attached exhibits, this proposed modification of FM broadcast translator W273CO-CP, Lansing, NY stands in full compliance with the Commission's Rules.

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