

ENGINEERING REPORT

FM Translator Minor Change Application

For

W284AH – Lansing, MI
File No. BLFT-19990831AAK
Facility ID No. 77818

June, 2015

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(Exhibit numbering is in response to FCC Online Form 349, Section III-A)

Discussion

This firm has been retained to prepare the required engineering report in support of a Minor Change Application for FM Translator W284AH – Lansing, MI, (BLFT-19990831AAK), Facility ID #77818. W284AH is licensed for operation on Channel 284D, 104.7 MHz, with an ERP of 0.25 kW at a center of radiation (COR) of 284 meters AMSL. It is proposed to operate with slightly corrected coordinates and center of radiation (COR) of 285.2 meters AMSL, and with a different antenna. Presently, W284AH operates Shively, Model 6812-1, one bay antenna. The new antenna will be a non-directional BEXT, Model TFC1K, two-bay antenna. The translator will rebroadcast primary station WJKN-FM, Spring Arbor, MI, 89.3 MHz, (Facility ID No. 91139) as a non fill-in Translator. The translator will continue to serve the community of Lansing, MI.

The facility is located on an existing structure. A copy of a Topographical/Photographical Map showing the transmitter site location has been included as **Exhibit 13.1**. The vertical antenna system has been plotted in **Exhibit 13.2**. As no changes are proposed for the supporting structure, FAA notification is not required.

Exhibit 13.3 is a map showing the presently authorized construction permit 60 dBu contour versus the proposed amended 60 dBu contour. This exhibit shows that the two contours nearly overlap, thus qualifying as a Minor Change Application.

Exhibit 13.4 is a map showing the relationship between the proposed amended facility's 60 dBu contour versus the primary station, WJKN-FM's 60 dBu contour. W284AH is being fed via FM translator station W252CN, Lansing, MI, which carries the programming of WJKN-FM.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station. General allocation details are found in **Exhibit 13.5**. Full protection is afforded all facilities as shown in this exhibit. Exhibit 13.6 is a detailed protection study of third adjacent channel station, WVGR(FM), Grand Rapids, MI. This study shows that WVGR(FM) is afforded full protection from W284AH.

The applicant would like to note the use of the NED 03 SEC Terrain Database for all allocation, contour and HAAT calculations contained here-in.

RADIATION PROTECTION: The Commission requires an engineering study regarding compliance with the guidelines for human protection from radiofrequency radiation. This report section is in response to that provision of the Rules. The current Federal Communications Commission guidelines for RF radiation protection are set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01).

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules.

Discussion

Exhibit 17.1 provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.

DISTANCES TO CONTOURS: The following tabulation of the distances to the proposed service contours results from calculations performed in accordance with §73.313(d) and §73.333 Figure 1 utilizing the NED 03 second terrain database.

N. Lat. = 424419.0 W. Lng. = 843305.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
W284AH, Spring Arbor University,						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	255.3	29.9	0.2500	-6.02	1.000	7.09
030	257.1	28.1	0.2500	-6.02	1.000	7.09
060	257.9	27.3	0.2500	-6.02	1.000	7.09
090	260.6	24.6	0.2500	-6.02	1.000	7.09
120	265.8	19.4	0.2500	-6.02	1.000	7.09
150	264.4	20.8	0.2500	-6.02	1.000	7.09
180	267.3	17.9	0.2500	-6.02	1.000	7.09
210	269.3	15.9	0.2500	-6.02	1.000	7.09
240	265.3	19.9	0.2500	-6.02	1.000	7.09
270	261.3	23.9	0.2500	-6.02	1.000	7.09
300	256.7	28.5	0.2500	-6.02	1.000	7.09
330	257.7	27.5	0.2500	-6.02	1.000	7.09

Ave El= 261.56 M HAAT= 23.64 M AMSL= 285.2 M