

ENGINEERING REPORT

MINOR CHANGE APPLICATION

FOR

WLKM-FM – CH240A
Three Rivers, MI

BLH-6731

March 2008

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(Exhibit Numbering is in response to FCC Online Form 301, Section III-B)

DISCUSSION OF REPORT

This firm was retained to prepare the required engineering report in support of a minor change application for WLKM-FM, Three Rivers, MI, License No. BLH-6731. WLKM-FM is currently authorized to operate with 3.0 kW ERP (H)&(V) at 88 meters HAAT on CH240A. The station is licensed under the previous spacing table for Class A stations. The application requests operation from a new site with 3.6 kW maximum ERP (H) & (V) at 129.6 meters HAAT using a directional antenna. The facility will continue to serve Three Rivers, MI.

The proposed site for the Class A operation meets all domestic spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation for full 6.0 kW equivalency with the exception of three facilities. A tabulation of the proposed and required spacing toward each of the other relevant stations is found in **Exhibit 26.1**. Processing under the provisions of §73.213(c) is requested towards WMAX-FM, Holland, MI; WYPW (FM), Nappanee, IN; and WEFM (FM), Michigan City, IN. The proposed location meets the previous spacing table toward WMAX-FM and WEFM and increases the present spacing. A directional antenna will be used to hold the effective radiated power to the equivalent of 3.0 kW at 100 meters HAAT toward the protected contours of both stations. The details of the directional antenna pattern used to achieve these protections are found in **Exhibit 26.2**. Tabulations under the previous spacing table found in §73.213(c)(1) are shown for both the present licensed site and the proposed site in **Exhibits 29.1** and **29.2** respectively. An agreement for a mutual upgrade with WYPW in accordance with §73.213(c)(2) has been attached as **Exhibit 29.3**.

The present and proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as **Exhibit 23.4** of this report. This exhibit shows the 3.16 mV/m contour which serves the community of license, and the overall service provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective proposed contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT. However, the plotted contours shown in **Exhibit 23.4**, are based on the use of a full 360 terrain radials. The NGDC 30 second terrain database has been used in calculation of both HAAT and contour distance computations.

The proposed three bay antenna will be mounted on a 423 ft tower (including beacon) to be constructed. The FAA is being concurrently notified of this proposal. A copy of USGS topographic mapping showing the proposed site has been included in **Exhibit 23.1**. A copy of the vertical antenna plan is shown as **Exhibit 23.2**.

DISCUSSION OF REPORT (continued)

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Online Form 301, Section III-B.

The FM Broadcast facility proposed in this application is within the controlled and uncontrolled limits as set forth in the RF Exposure Compliance Worksheet #1 of Form 301 issued January 2008. A copy of Worksheet #1 will be supplied upon request. The RF radiation will not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. The facility will be properly marked with signs, and entry will be 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 table below shows the distances to the 3.16 mV/m and 1.0 mV/m contours from the proposed facility using a maximum ERP of 3.6 kW at an HAAT of 129.6 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 415351 W. Lng. = 853351								
HAAT and Distance to Contour - FCC Method - NGDC 30 SEC								
Proposed WLKM-FM - Three Rivers, MI								
Azi.	AV EL	HAAT	ERP kW	dBk	Field	70-F5	60-F5	
000	247.4	135.1	1.7995	2.55	0.707	13.73	24.62	
045	255.6	126.9	3.6000	5.56	1.000	15.98	27.99	
090	259.7	122.8	3.6000	5.56	1.000	15.70	27.62	
135	265.7	116.8	3.6000	5.56	1.000	15.29	27.06	
180	244.7	137.8	3.6000	5.56	1.000	16.75	28.97	
225	243.9	138.6	3.6000	5.56	1.000	16.81	29.05	
270	255.2	127.3	1.7995	2.55	0.707	13.32	24.01	
315	250.8	131.7	1.7995	2.55	0.707	13.55	24.36	
Ave El= 252.86 M HAAT= 129.64 M AMSL= 382.5 M								