

**ENGINEERING REPORT  
MINOR CHANGE  
CONSTRUCTION PERMIT  
APPLICATION**

for

**WXKE(FM) - Churubusco, IN**

CH242B1 (96.3 MHz)

BLH-19940425KX

(Facility ID No. 22287)

January 2017

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Coldwater, MI 49036

# Table of Contents

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Discussion of Report

## **Allotment Requirement**

Exhibit 27.1 - Copy of Existing Antenna Structure Registration  
Exhibit 27.2a - USGS Aerial Photograph of Proposed Site  
Exhibit 27.2b - USGS Topographic Map of Proposed Site  
Exhibit 27.3 - Vertical Plan of Antenna System  
Exhibit 27.4 - Tabulation of Operating Conditions  
Exhibit 27.5 - Proposed Service Contour Study

**Community Coverage Requirement** (See Discussion)

**Main Studio Location Requirement** (See Discussion)

## **Interference Requirements**

Separation Requirements

Exhibit 30.1 - Tabulation of Commercial Spacings  
Exhibit 34.1 – Short Spaced Contour Protection Studies

## **RF Radiation Study Requirement**

Exhibit 35.1 - RF Radiation Study

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

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## **Discussion of Report**

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This firm was retained to prepare the required engineering report in support of this Minor Change Construction Permit Application for WXKE(FM) – Churubusco, IN (Facility ID No. 22287). Presently WXKE(FM) operates under License BLH-19940425KX with 6.7 kW ERP (H&V) at 414 meters AMSL. WXKE(FM) operating parameters of 8.4 kW ERP (H&V) at 401 meters AMSL are requested from a new site identified by ASR #1028212. WXKE(FM) will continue to serve the community of Churubusco, IN.

The proposed site for the Class B1 operation meets domestic and international spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation except for WQLK(FM) – Richmond IN. A tabulation of the existing and required spacing toward each of the other relevant stations is found in **Exhibit 30.1**. A tabulation of the requirements of 47 C.F.R. §73.215 for Contour Protection with respect to WQLK(FM) is found in **Exhibit 34.1**

The 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 in **Exhibit 27.5** of this report. This exhibit shows the 70 dBu contour which serves the community of license, and the overall service provided by the 57 dBu contour of the facility. The plotted contours shown in **Exhibit 27.5**, are based on the use of a full 360 terrain radials. The applicant would like to note the use of the NED 03 SEC terrain database for all allocation, contour and HAAT calculations contained herein.

As stated before, the antenna will be mounted on the tower bearing Antenna Structure Registration Number 1028212. A copy of the existing ASR Number has been included as **Exhibit 27.1**. A copy of USGS Aerial Photography and Topographic Mapping showing the site location has been included in **Exhibit(s) 27.2(a-b)**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 27.3**.

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.

## Discussion of Report (continued)

**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. ***Exhibit 35.1*** 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 table below shows the distances to the 3.16 mV/m and 1.0 mV/m contours from the proposed facility using an ERP of 8.4 kW at an HAAT of 152 meters. These distances have been calculated based on the FCC F(50-50) curves.

| N. Lat. = 410624.0    W. Lng. = 851146.0<br>HAAT and Distance to Contour,<br>FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC |       |       |        |      |       |       |       |
|--|-------|-------|--------|------|-------|-------|-------|
| Azi.   | AV EL | HAAT  | ERP kW | dBk  | Field | 60-F5 | 70-F5 |
| 000  | 258.7 | 142.3 | 8.4000 | 9.24 | 1.000 | 35.92 | 21.17 |
| 045  | 248.7 | 152.3 | 8.4000 | 9.24 | 1.000 | 37.09 | 21.86 |
| 090  | 238.9 | 162.1 | 8.4000 | 9.24 | 1.000 | 38.21 | 22.51 |
| 135  | 240.6 | 160.4 | 8.4000 | 9.24 | 1.000 | 38.02 | 22.40 |
| 180  | 238.2 | 162.8 | 8.4000 | 9.24 | 1.000 | 38.29 | 22.55 |
| 225  | 250.9 | 150.1 | 8.4000 | 9.24 | 1.000 | 36.83 | 21.71 |
| 270  | 258.8 | 142.2 | 8.4000 | 9.24 | 1.000 | 35.90 | 21.16 |
| 315  | 259.0 | 142.0 | 8.4000 | 9.24 | 1.000 | 35.88 | 21.15 |
| Ave El= 249.22 M    HAAT= 151.78 M    AMSL= 401.0 M  |       |       |        |      |       |       |       |

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