

ENGINEERING REPORT

MINOR CONSTRUCTION PERMIT APPLICATION

For the NCE-FM Facilities of

**WYBA(FM) – Coldwater, MI
CH211A – 90.1 MHz**

BLED-20080716AAD

(As Amended)

December, 2010

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Spacing Requirements	(none)
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RF Radiation Study Requirement

- Exhibit 22.1 - RF Study

(Exhibit Numbering is in response to FCC Online Form 340, Section VII)

DISCUSSION OF REPORT

This firm was retained to prepare the required engineering report in support of this minor construction permit application for WYBA(FM), Coldwater, MI, File No. BLED-20080716AAD. The WYBA(FM) facility is licensed to operate with Class A operating parameters of 0.250 kW at a COR of 308 meters AMSL. This minor modification application specifies Class B operating parameters of 32.0 kW at a COR of 359 meters AMSL from a new tower site location. The proposed operation will continue to serve the community of Coldwater, MI. A new directional antenna pattern will be employed.

The proposed site for the Class B operation meets all the contour protection requirements towards other domestic stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 16.1**. There are four (4) other facilities, WRRO(FM) – Edon, OH; WKDS(FM) – Kalamazoo, MI; WBCL(FM) – Fort Wayne, IN; and WOOR(FM) – Olivet, MI, which are deemed close enough to require further study. An FMCommander™ map of the relevant protected and interference contours toward each relevant facility has been supplied in **Exhibit(s) 16.2 to 16.5**. It is believed there is sufficient clearance to preclude the need for further study with respect to the other domestic protected stations shown in the allocation study. Tabulations for each contour employed will be supplied to the FCC upon request.

The transmitter site is located within 320 km of the common border between the United States and Canada. Full protection will be afforded all Canadian facilities as noted in **Exhibit 16.1**.

The Transmitter site is located within the affected radius of Channel 6 television facility WLFM-LP – Chicago, IL. Full protection will be afforded WLFM-LP as noted in **Exhibit 19.1**.

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 service contour is found as **Exhibit 13.4** of this report. This exhibit shows the overall service provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective 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 contour shown in **Exhibit 13.4** is based on the use of a full 360 terrain radials and the USGS 03 Second Terrain Database.

The antenna will be mounted on a new 91.4 meter AGL tower to be constructed. TOWAIR has been consulted and the proposed tower requires Antenna Structure Registration. FAA “Determination of No Hazard” has been obtained for the structure and the tower has been assigned Antenna Structure Registration Number 1277038. A copy of the existing ASR has been included in “Exhibit 1” on the Form 340 itself. A copy of USGS topographic mapping of the proposed site has been included in **Exhibit 13.1**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 13.2**.

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 Form 340.

DISCUSSION OF REPORT (continued)

The FM Broadcast facility proposed in this application is within the uncontrolled limits as noted in the supplied **Exhibit 22.1** study. 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 1.0 mV/m contour from the proposed facility using an ERP of 32.0 kW at an HAAT of 77 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 420841.0 W. Lng. = 851234.0 HAAT and Distance to Contour, V-Soft 3-16 km, 131 pts Method - USGS 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	286.8	72.2	23.7774	13.76	0.862	33.38
045	285.8	73.2	32.0000	15.05	1.000	35.94
090	286.8	72.2	32.0000	15.05	1.000	35.72
135	279.1	79.9	29.6758	14.72	0.963	36.74
180	272.0	87.0	32.0000	15.05	1.000	38.74
225	272.6	86.4	19.1457	12.82	0.774	34.55
270	282.5	76.5	2.3849	3.77	0.273	20.12
315	294.3	64.7	3.0356	4.82	0.308	19.70
Ave El= 282.47 M HAAT= 76.53 M AMSL= 359						