

**ENGINEERING REPORT**  
**MINOR CONSTRUCTION PERMIT**  
**MODIFICATION APPLICATION**

For the NCE-FM Facilities of

**WSPB.C – Bedford, MI**  
**CH209A – 89.7 MHz**

Original Construction Permit  
File Number  
BMPED-20100908AAA

November, 2012

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## **Interference Requirements**

### **Contour Overlap Requirements**

Exhibit 18.1 - Tabulation of Non-Commercial Allocation  
Exhibit 18.2 - Contour Protection Studies Toward WYBA(FM)

**Spacing Requirements** (none)

**Grandfathered Short-Spaced Requirements** (none)

**Contour Protection Requirements** (none)

**TV Channel 6 Protection Requirements** (none)

### **RF Radiation Study Requirement**

Exhibit 24.1 - RF Study

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

# DISCUSSION OF REPORT

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This firm was retained to prepare the required engineering report in support of this minor construction permit modification application for NCE-FM facility WSPB.C (CH209B1) – Bedford, MI, Construction Permit File Number BMPED-20100908AAA. Presently WSPB.C is authorized to operate with Class B1 operating parameters of 8.1 kW at 71 meters HAAT utilizing a directional antenna. This minor modification application specifies Class A operating parameters of 0.205 kW at 16 meters HAAT from an alternate site location. Non-directional operation employing horizontal only polarization will be employed. The proposed operation will continue to serve the community of Bedford, MI.

The proposed site for the Class A operation meets all contour protection requirements towards other domestic stations in the allocation. In addition the proposed Class A operation will remain wholly contained within the presently authorized Class B1 allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 18.1**. There is one (1) other facility, WYBA(FM) – Coldwater, MI (CH211B) deemed close enough to require further study. An FMCommander™ map of the relevant protected and interference contour towards this facility has been supplied in **Exhibit 18.2**. It is believed there is sufficient clearance to preclude the need for further §73.509 studies with respect to the other domestic protected stations shown in the allocation study. Tabulations for additional contours employed will be supplied 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 18.1**. WSPB.C has previously been notified and accepted on Channel 209B1 by Industry Canada in a letter dated 11/24/2010. As this proposal specifies operating parameters of 0.205 kW at 16 m HAAT or well within the currently notified 8.1 kW at 71 m HAAT threshold, full protection will be afforded all Canadian concerns as well.

The transmitter site is not located within the affected radius any Channel 6 television facility therefore no further TV-6 studies are believed necessary.

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 in **Exhibit 15.5** 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 15.5** is based on the use of a full 360 terrain radials and the NED 03 Second Terrain Database.

The antenna will be mounted on an existing 9.1 meter AGL pole. The pole was built prior to March 16, 2001 and does not require Antenna Structure Registration. Information concerning the existing pole has been included in **Exhibit(s) 15.1** and **15.2**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 15.3**.

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 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 24.1** 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 0.205 kW at an AMSL of 294 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 422513.0    W. Lng. = 851713.0						
HAAT and Distance to Contour,						
FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	289.0	5.0	0.2050	-6.88	1.000	6.75
045	289.3	4.7	0.2050	-6.88	1.000	6.75
090	275.1	18.9	0.2050	-6.88	1.000	6.75
135	267.0	27.0	0.2050	-6.88	1.000	6.75
180	271.3	22.7	0.2050	-6.88	1.000	6.75
225	269.9	24.1	0.2050	-6.88	1.000	6.75
270	280.8	13.2	0.2050	-6.88	1.000	6.75
315	283.0	11.0	0.2050	-6.88	1.000	6.75
Ave EL= 278.17 M    HAAT= 15.83 M    AMSL= 294 M						