

ENGINEERING REPORT

MINOR CONSTRUCTION PERMIT APPLICATION

For the NCE-FM Facilities of

**WTKC(FM) – Findlay, OH
CH209A – 89.7 MHz
Facility ID No. 92793**

License Number
BLED-20070614ABM

February, 2010

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Spacing Requirements (none)

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RF Radiation Study Requirement

- Exhibit 24.1 - RF Compliance 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 NCE-FM station WTKC(FM), Findlay, OH, License No. BLED-20070614ABM. WTKC(FM) is licensed to operate on CH209A (89.7 MHz) with Class A operating parameters of 0.125 kW at a COR of 249 meters AMSL. This minor modification application specifies Class A operating parameters of 0.200 kW at a COR of 268 meters AMSL from a new site location. The station will continue to serve the community of Findlay, OH.

The proposed site for the Class A 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 18.1**. There are three (3) other facilities, WNOG(FM) – Bowling Green, OH, WOSU-FM – Columbus, OH and WXML(FM) – Upper Sandusky, OH deemed close enough to require further study. An FMCommander™ map of the relevant protected and interference contours toward the relevant facilities has been supplied in **Exhibit(s) 18.2** to **Exhibit(s) 18.4**. 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 over Canadian soil as noted in **Exhibit 18.1**. No given interference will result to any of the Canadian facilities over Canadian soil as noted in the allocation showing.

The Transmitter site is not located within the affected radius of any Channel 6 television facility; therefore no further TV-6 protection studies are required.

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 15.5** of this report. This exhibit shows the overall service that is 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 contours shown in **Exhibit 15.5** are 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 30.5 meter AGL tower which does not require Antenna Structure Registration. As this proposal will not increase the overall tower height, the FAA need not be notified. A copy of USGS Topographic Mapping showing the existing site has been included in **Exhibit 15.1**. 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)

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 §1.1307(b)(3) of the Commission's rules concerning RF contributors of less than 5%. **Exhibit 24.1** provides the details of the study that was made to demonstrate compliance. The facility is or will be properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates if required. 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 0.200 kW at an HAAT of 26 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 410311.0 W. Lng. = 833913.0 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	233.2	34.8	0.2000	-6.99	1.000	7.17
045	244.5	23.5	0.2000	-6.99	1.000	6.71
090	250.7	17.3	0.2000	-6.99	1.000	6.71
135	242.5	25.5	0.2000	-6.99	1.000	6.71
180	248.3	19.7	0.2000	-6.99	1.000	6.71
225	243.7	24.3	0.2000	-6.99	1.000	6.71
270	234.9	33.1	0.2000	-6.99	1.000	7.00
315	235.4	32.6	0.2000	-6.99	1.000	6.95
Ave El= 241.64 M HAAT= 26.36 M AMSL= 268 M						